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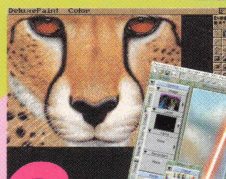
AMIGACTIVE

ISSUE 21

JUNE 2001

GROOVY Software

Overly Elaborate and Exotic



I Want Some Mars Bars
Digital Almanac

I Expect Them To Die
Land Of Genesis

Shasadelic, Baby
OS3.0 Masterclass

Fire the "Laser"
Bluffer's Guide

Quasi-Futuristic
NextGen Watch

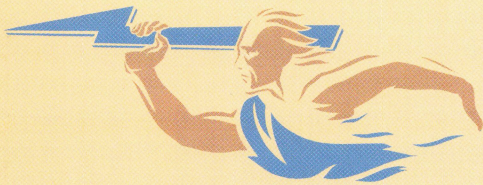
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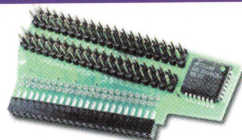
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EIDE 99 A1200	£24.95



**Mediator
PCI 1200
£139.95**

Regulars

06 News

What's been happening with OS4.0 and AmigaOne?

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A glance at the future without
the aid of a time machine.

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Digital devices and an unhappy shopper.

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Making all the right moves
but not talking any sense?

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The Guru's word of the month: Transmogrification!

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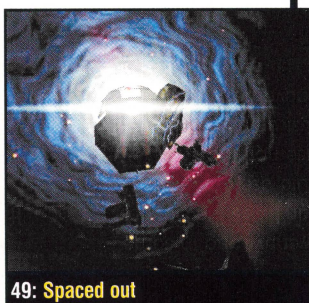
Cascading Style Sheets eloquently explained.

62 Next Month

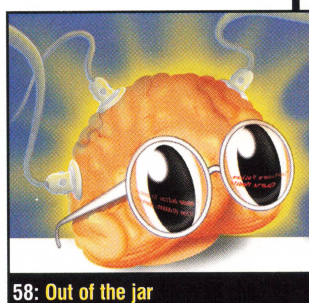
What you'll probably see in next month's issue.

64 The Back Page

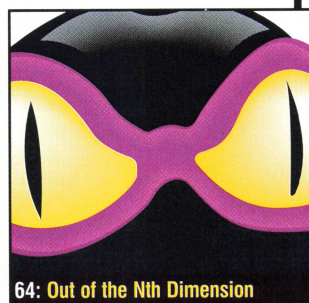
We meant real people.
You asked for...



49: Spaced out



58: Out of the jar



64: Out of the Nth Dimension

Reviews

22 Digital Almanac 3

Stars in your eyes?
The latest version of this
astronomy package will
only make it worse.

27 SBase4 Pro

The long running database software that time quite possibly forgot, this month is remembered and reviewed as it reaches version 4. But has it evolved enough to cut it in the 21st century?

30 Next Gen Watch

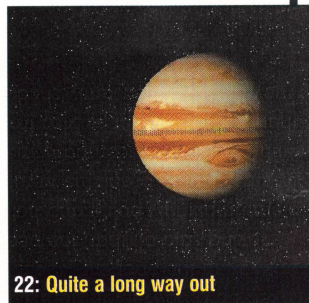
The Met on the net? A combination of bar codes and wireless radio to make way for the first Cyber Cop.

36 Active Media

Jumping off the top of a skyscraper with a fire-hose tied round your waist? Daleks walking up stairs? These are things which are clearly impossible. Right?

51 Land of Genesis

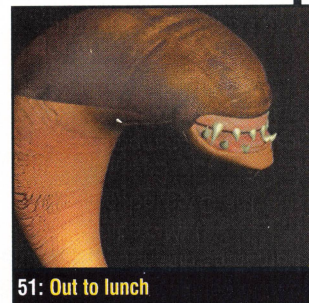
In the beginning, there were 2D platformers in which big guns featured prominently, like *Turrican*. Now, witness the resurrection of the humble polygon-free shoot-em-up with *Land of Genesis*. Run, jump, and blow things up. Rah!



22: Quite a long way out




30: Out to catch you



51: Out to lunch

[illegible][illegible]

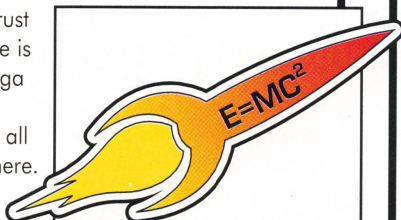
14 Top 10



No. 1

14: The out and out winner is...

Know your OS4.2 features from your OS5 ones? Up to speed with the jargon thrust upon us by what we hope is going to be the new Amiga revolution? If not, you needn't worry. We've got all you need to know right here.



Not a bad new operating system we have here... shame about the uninspiring colour scheme, really. Not to mention the lack of some truly useful utilities. Follow our Masterclass, however, and all that will change.

Scripting isn't the most visually stimulating of subjects, but it needn't be limited to lines of text. This month, we show you how to create a friendly GUI for your AReXX scripts.



Shogo

Shogo has now been released - we'll have a review for you next issue - but in the meantime, we've grabbed the playable demo and put it on this month's CD. This month, the Games drawer also contains dynAMite, an addictive Bomberman / Dynablaster clone that is played over the Internet.



The full results from this scene party are on the CD, along with the top entries in each of the Amiga categories.

Audio Evolution is a multi-track recording and mixing system. If your musical creation abilities extend beyond encoding CD tracks to MP3, give it a go. For those who don't even want to create your own MP3s, we have included Amster, the MP3 sharing software.

There have been several virus and trojan attacks lately, including some fake “updates” of well known programs with unpleasant side-effects. You can never be too careful, so we have included the latest versions of Safe and Virus Executor.

This drawer is on every AACD and contains a range of essential programs. If you get stuck, or you need to start again after a hard drive problem, this is the place to look.

As always, this is only scratching the surface. Double-click the Welcome icon and have a good browse around the CD for yourself. Our easy-to-use Search program will help if you're looking for something in particular.



ACTIVE News

Amiga Active brings you the latest news from the Amiga industry. news@amigactive.com

AmigaOne and OS4.0 on course for August

Eyetech and Amiga are hard at work on the new Amiga hardware and Operating System respectively.

“Work on the AmigaOne’s complex logic is currently ahead of schedule...”

Development of the AmigaOne boards - a prototype of which was first unveiled at the St. Louis 2001 show at the beginning of April - is progressing apace, with Eyetech confirming that they’re still on schedule for a release in August.

Work on the AmigaOne’s complex logic is currently ahead of schedule, with PCI logic already completed. Remaining work essentially involves taking existing hardware libraries and re-implementing them for the programmable logic chips on the AmigaOne board.

The first version of the board (pictured, below), which was

missing the logic chips and port controllers has now been superseded by a second revision which will be used as the basis for the final production run. The hardware specification has not changed from the original design and still includes six PCI (Peripheral Component Interconnect) and one AGP (Accelerated Graphics Port) slot.

From 3.9 to 4.0

Amiga’s original plan was to patch the existing operating system, 3.9, and write an emulator layer for the AmigaOne to provide backwards compatibility with existing Amiga applications.

OS4.0, however, will be far more comprehensive than 3.9 with features such as AmiFFS2, Ami2D, Ami3D and ExecPPC (see our feature this month on page 20) - and now that Amiga have committed to advancing the OS beyond 3.9, the plan now is to run OS4.0 on the AmigaOne from the outset.

Amiga’s part in providing OS4.0 on time is critical to the timely release of the

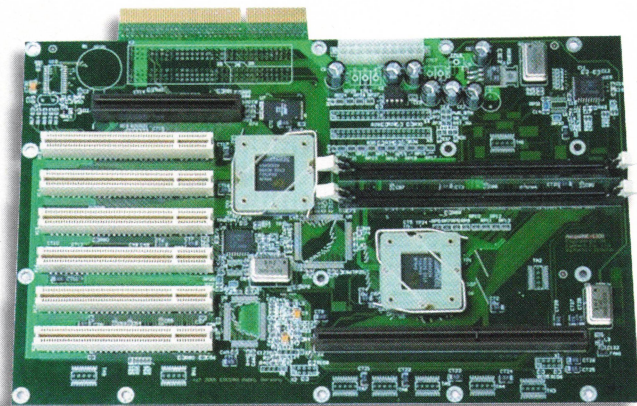
AmigaOne systems. What needs to be implemented, such as the TCP/IP stack, already has been - whilst there are several other features which may or may not make it in time for the initial release, currently slated for the second week in August.

“We have a three-stage list of requirements,” Fleecy Moss, Amiga’s Chief Technology Officer told Amiga Active. “Features that are absolutely essential; those that we would really like to have and may delay the launch; and those that it would be nice to have but which we aren’t going to wait for - they can be released in a Boing Bag update later on.”

OS4.0 will require an attached A1200 or A4000 and will only run on the AmigaOne boards, whilst the following release, 4.2, will be hardware independent and capable of running without an attached ‘Classic’ Amiga system. Happily, this approach will allow both the AmigaOne and OS4.0 to get to market faster.

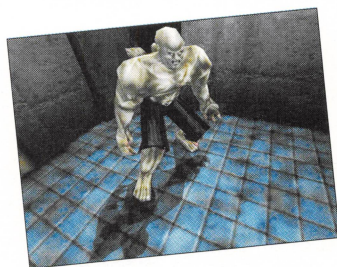
Beta Testing

Now that OS4.0 will ship with the AmigaOne, the expected role of beta-testers has changed somewhat. With OS3.9 and an



Editorial

SiN too deep



Hyperion Entertainment Software have finished their port of PC hit SiN to the Amiga - but won't be releasing it just yet.

Like Hyperion's earlier port, Heretic II, SiN is built using a modified Quake II engine. However, the modifications appear to be more demanding, and at the time of the original PC release many people who found their computers up to the task of playing Quake II discovered that SiN required a little bit too much power from their hardware.

This same problem seems to have occurred in the Amiga version, which will now be delayed until the release of the AmigaOne to ensure that there is powerful hardware available to run it well.

Hyperion's PR manager Ben Yoris confirmed the delay to *Amiga Active*, explaining that because of the complexity of the game, it simply doesn't run fast enough on a PowerPC 604/233 with Cybervision graphics card, the current top specification for a PowerPC Amiga, despite their efforts.

"The enemies' AI [Artificial Intelligence] eats up a lot of CPU resources. Peter Annus did a great job, but the hardware is too slow," he told us.

Expect to see SiN released about the same time as the AmigaOne, due in late summer. Until then, visit Hyperion's web site for more information - or simply turn to this month's *Active Gamer* starting on page 49.

www.hyperion-software.com ►

emulation layer initially expected to provide backward-compatibility, testing such a system on a variety of different setups with the broadest possible range of applications was of prime concern. With OS4.0, however, this testing which was due to be carried out by beta-testers will now be done 'in-house', with boards only being shipped out to beta-testers after the bulk of testing has been completed.

Shortly after they asked for applications, Eyetech heard from over 500 hopeful beta-testers wanting to put the first new Amiga hardware in over half a decade through its paces. From these people, around 50 will be chosen.

Meanwhile Eyetech, in between working on the board's design and ironing out their plans with Amiga, have been discussing the project on the public AmigaOne mailing list (<http://groups.yahoo.com/group/amigaone>) and a private list for dealers has been set up to answer any questions that potential AmigaOne retailers may have. Boards will also be shipped to dealers for feedback.

www.amiga.com
www.eyetech.co.uk

Groovy, Baby!

Thanks for picking up this magazine and not being, like, totally put off by the cover, man. Okay, so we didn't know quite what was going to happen when we threw our lead feature at Steve and asked him to make it look groovy. The result - well, you'll just have to flick to page 14 and find out. We're just sorry we couldn't covermount any sunglasses.

No, this isn't a change of house style for *Amiga Active* - don't expect all our lead features to be this nauseating - it's merely a little summer fun to get us in the mood for the holiday season, inspired in part by the excellent Austin Powers movies. Indeed, to compensate for such frivolity, witness a new picture of yours truly, still looking quite sombre. It's all a charade, of course. In reality, we're the kind of layabouts that never get out of bed for less than a KFC bargain bucket. Oh no, sorry, that's just Russ.

So, what's in the rest of this month's issue? Somebody tell me, please, because I've been too busy changing everything at the last minute to remember exactly what we've ended up with. We had planned to review iFusion, but the less said about that the better. Then there were the ideas we had for features - ideas which, unfortunately, are going to take a while to materialise, as they always do.

So instead, we've provided you with [glances at tattered flatplan] a Bluffer's Guide to the Future (page 20); reviews of the sparkling Digital Almanac 3 (24) and the rather more studious SBase4 Pro (28); a law-abiding NextGen Watch (30); the return of Active Media (36); the second part of our OS3.9 Masterclass (38); the last in our series of Active ARexx (44); and, well, I would go on but I'm out of space. So, sunglasses to hand, I hope you enjoy reading this issue as much as we enjoyed working overtime and not getting enough sleep. Then, when you've finished - and before you all ask what's in next month's issue - let us know what you think by e-mailing us at interactive@amigactive.com, or writing to the usual address (on page 54). Cheers!

David Stroud, Editor.





Zealots vs. The World

To paraphrase Anne Robinson - "I don't get zealots - what are they for?" Don't get me wrong - I'm not talking about those who support a cause (or indeed a computer) beyond the limits of what most would consider reasonable - what they do, they do for a positive belief.

I am talking about the darker type of zealot. Under the guise of supporting a cause (or a computer), they attach themselves to a group and then begin to expend considerable effort in sewing doubt, distress and disinformation. Their ultimate aim: to watch the cause crumble, laugh and say 'told you so', the dripping knife still held tightly behind their backs. Why do they do this? Frustration, the fact that it is easier to destroy than to create, hidden agendas. The enjoyment of being the centre of attention.

Why don't they just leave the cause on which they expend so much energy in disparaging? What possible pleasure can they find in kicking and punching something into unconsciousness and ultimate death? Rather like the violent elements at the May Day demonstrations, they take our most valuable right - to protest, to disagree - and make a nonsense of it.

Consider the present Amiga Inc. situation. We have the AmigaDE under development and we're wowing companies and content brokers across the globe. We have our first huge deal, with one of the biggest consumer electronics companies in the world, guaranteeing Amiga a business future. We already have working AmigaOne boards, with our favourite OS restored and set for development far into the future. Yet already, the AmigaDE is dismissed as a toy, the Japanese OEM ridiculed as a bit player, and the AmigaOS and AmigaOne consigned to irrelevance.

Oddly enough, this isn't a view shared by the rest of the world. More and more, commentators, businesses and - most importantly - everyday users are realising that they are living increasingly digital lives. Their homes are full of entertainment and work devices - TVs, CDs, DVDs, Phones, Games Consoles, their paper folders, boxes of bills, newspapers, address books, shopping lists, calendars and correspondence, and all are eschewing paper and ink for the future of binary.

Amiga has a plan, and is developing product to enable this digital life, to make it possible for all your content to work on any device. The companies and individuals we are dealing with are zealots, as are we at Amiga, but we are only interested in the future, in identifying problems and providing solutions.

Of course, some zealots will turn every word in this article around, sadly using all their creative potential to paint disenchantment and distrust across it. Luckily, we know that the Amiga's future is brighter than it has been for many years.

Fleecy Moss,
Chief Technology Officer Amiga Inc.

PDA market

Amiga's announcement of their partnership with Sharp to provide the AmigaDE for the Japanese Giant's line of PDAs (Personal Digital Assistants) could have had more fortunate timing.

End of financial year announcements from PDA giants Palm and Handspring have revealed a significant slowdown in the PDA market which has provoked a number of people in the Amiga market to question the value of what at first looked like a major deal for Amiga.

Closer examination of the markets in the aftermath of the reports from Palm and

Handspring has shown a picture that is much rosier for Amiga than it looked initially. According to research firm IDC Japan, PDA shipments in Japan rose over 20 percent in the calendar year 2000, and heavy growth is expected during 2001.

Amiga partners Sharp have thus far concentrated on the Japanese market, where they are the dominant force, and have enjoyed roughly a 50 percent share of the Japanese PDA market for some time.

Despite strong competition from Sony's PalmOS powered Clie as well as Palm's own Palm Computing KK division and a growing number of PocketPC

Tao Release New intent

Tao Group have announced the availability of intent 1.1, its multimedia platform targeted at the home and mobile connected device market, and the technology that forms the basis of the forthcoming AmigaDE.

Boasting a new Java Virtual Machine (JVM) which now supports the PersonalJava 1.2 specification; and additional multimedia features including streaming technology for media players, this latest version of intent is the first to include technology from one of Tao Group's partners, Sseyo, in the form of the Japanese company's Koan interactive audio software.

"intent has already been adopted by leading consumer electronics companies, the most recent news coming from Sharp, and with further major

announcements from new customers [due] during the 3rd quarter," commented Francis Charig in the company's press release, before taking the opportunity to emphasize that intent, "also provides a level of portability and consistency across multiple devices which cannot be achieved using any other technology."

With the intent 1.1 SDK (Software Developers' Kit) now available for both Windows and Linux platforms, the next version of the Amiga SDK shouldn't be far behind, although it is expected to contain not only audio but also video functionality - both of which are missing from the current release.

Tao Group, meanwhile, will be showcasing intent and various related products at JavaOne in San Francisco between June 4-7 (booth 330).

Looking rosier for Amiga?



PDA companies, Sharp remain the most powerful player in the Japanese Palmtop PDA market with a 36 percent market share. With improved Internet connectivity, the launch of the new MI-L1 model eZaurus and the capabilities brought in by the Tao Group/Amiga deal, Sharp hope to raise shipments of the eZaurus line by half to 500,000 units during the 2001-2 financial year.

Go west...

Sharp will be using this strong foundation to help the launch of their Linux/AmigaDE version of the eZaurus into Western markets during 2001, and have also recently opened a new mobile technology division for Europe, based in Wales.

This division will primarily help the company move into the European mobile communications and computing sector. Sharp are expected to release a mobile phone/PDA hybrid to coincide with the roll-out of higher bandwidth "2.5G" networks in Europe in the second half of 2001. Details are being kept under wraps at the moment, but this product is likely to be a

Zaurus family device running the AmigaDE.

UK based Psion, another major PDA partner of Tao Group and Europe's largest manufacturer of handheld computing devices, also announced good results, with their sales for the first quarter of 2001 being "significantly ahead" of their sales for the same period last year. Psion's success is based on a strengthening of their corporate sector, Psion Teklogix, which recently announced a deal with Tao Group to use **intent**.

Psion have confirmed that their consumer sector has seen the same market contraction as that seen by Palm and Handspring, but unlike those two companies, Psion has the further excuse of being on the trailing end of a product cycle.

Psion will be launching a new range of Bluetooth equipped devices during the second half of 2001. Details are being kept very closely under wraps, but leaked information on some of the prototype designs have revealed some very exciting mobile computing-oriented devices.

SDL comes to Amiga

By the time you read this, you should be able to download source and binaries of Gabriele Greco's port of the SDL libraries to AmigaOS.

SDL (Simple DirectMedia Layer) is a cross-platform multimedia library currently running on Linux, Solaris, IRIX, FreeBSD, MacOS, BeOS and Windows. It aims to provide the same kind of multimedia software interface as Microsoft's DirectX, but using an open-source, cross platform distribution model.

There has been a wide range of software created for SDL, including MPEG playback software, emulators and games, including the Linux port of Civilization: Call to Power. The Amiga version, which is based on the latest SDL1.2 source, should make it considerably easier to port this software over to the Amiga platform. ▶

Talking Tao



Come Together

Last month I was telling you about how the consumer electronics giants were centralising software policy. This was required to give them a consistent infrastructure across their many appliances. The problem for them has been to find a way of bringing together all of the disparate operating systems and hardware platforms.

There have been other problems emerging which have been extremely challenging. Hardware standardisation around the Java language and the requirement to download and run compelling content at the client device has caused many sleepless nights. Typical Java technology solutions have not been designed for multimedia and therefore don't satisfy this essential requirement.

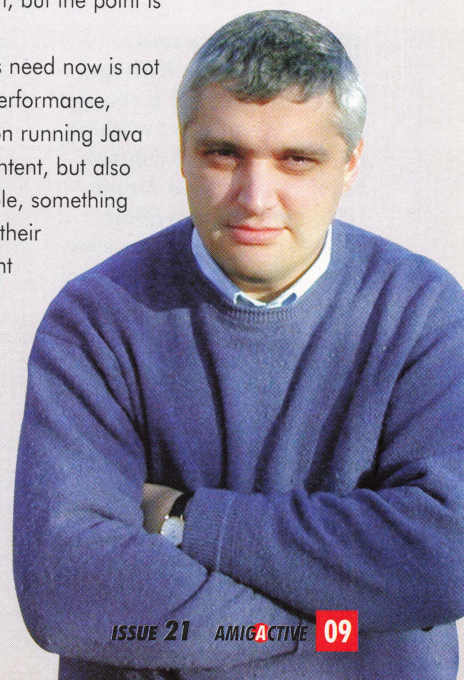
Reducing time to market, decreasing product cost and running premium content (including Java-based content), are in combination a major challenge - but the needs go further.

Having developed the basic product, the manufacturers need to go one step further. They have to be able to differentiate. This differentiation can be achieved in two ways. One is the ability of these companies to integrate their own technologies, which allows a consumer to select a product on the basis of some additional, possibly unique functionality, and if it is attractive enough then the buyer will pay more for having that extra capability.

Even more important is the brand. Brand is sold by the look and feel of the interface, and is most powerful if consistent across the different products being sold by the client. 'I use Brand X in my home so I want to access the same kind of services in my car and from my mobile phone using a Brand X product as well.' It's all quite subliminal in truth, but the point is certainly a good one.

So, what the manufacturers need now is not just a binary portable, high performance, language independent solution running Java technologies and gripping content, but also something open and pluggable, something that will allow them to create their own look and feel. If they want that, then there's only one available solution - and that's why the giants are now determined to win with **intent**.

Francis Charig,
Chairman of Tao Group.



Photogenics in your Pocket

Paul Nolan has announced yet another port of his award-winning paint effects package Photogenics - this time to the PocketPC operating system. This version makes Photogenics a unique high-end graphics package for mobile computing devices. Photogenics for PocketPC is currently in the beta testing stage.

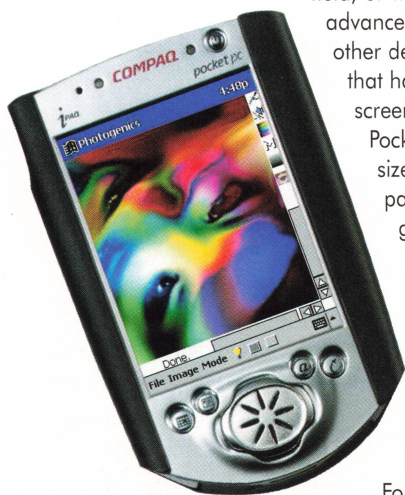
While the use of Photogenics will be limited by the screen size of current PocketPC devices, Photogenics for PocketPC will offer powerful image manipulation to be applied by digital photographers in the field, or will turn a PDA into an advanced digital sketching tool. With other devices such as web tablets that have larger, touch sensitive screens mooted to run versions of PocketPC, Photogenics' compact size and low power demands, part of its Amiga heritage, gives it a unique advantage in this market.

Developing Photogenics for this screen format means that there is likely to be very little work to do to move Photogenics onto the AmigaDE powered PDAs from Sharp.

For more information about

Photogenics for PocketPC, visit:

www.paulnolan.com/pocketpcfeatures.html



PowerPC to beat 2GHz

IBM have published a new roadmap for their development of the PowerPC chip which charts it through the book-E specification to 64-bits and 2GHz speeds. The first step on the roadmap is the move to low-k dielectric chips at a 0.13-0.10 micrometer die size, with the current PowerPC core designs being boosted to 700MHz.

The next step up sees a redesign integrating an SIMD (Single Instruction, Multiple Data) engine, which is quite likely to be the AltiVec SIMD engine used by Motorola in their G4 PowerPC chips. Although IBM were initially hostile to Motorola's AltiVec technology, causing a split between the two companies, it is thought that IBM have been at least somewhat

persuaded that there is demand for it. These chips will reach 1GHz and above, and will be SMP (Symmetrical Multi-Processing) capable. They will also encapsulate the RapidIO Interconnect Architecture, a packet-switched interconnect system for chip to chip or board to board communications at up to ten Gigabits per second, and the next generation of their CoreConnect on-chip bus architecture.

The final step on the roadmap, going into the next generation of PowerPC cores, represents the move to the book-E specification 64-bit designs. These will be Ultrascalar designs running at 2GHz and above, featuring a new memory controller device and new bus architectures including 'Switched Core-Connect' and 'High Speed Serial'.

Matrox shuffle their chips

Matrox are due to launch their next generation of 3D graphics hardware at the beginning of June. While the details of this next generation chipset had not been revealed at time of going to press, it is understood that this is not quite the chip that people have been expecting.

Matrox are Amiga's graphics hardware partners, selected for their willingness to give Amiga close co-operation as well as their excellent output quality and video handling.

Matrox have been behind the curve in 3D graphics, and their G800 chipset was supposed to claw back the lead taken by ATI and nVidia, offering 128-bit DDR memory, hardware Transformation and Lighting

(T&L), and two rendering pipelines each with three texture units.

Matrox may have concluded that the G800 was not a viable product launch, either because it was not a cost effective solution, or because it was too far behind their own development curve, depending on who you believe.

It seems the company will be delaying the release of a chip that will target the top-end 3D market, but they are likely to release a stop-gap, expected to be called the G550. This chip is expected to offer similar specs to the G800, but conflicting reports indicate that it may be missing the T&L unit. AGP graphics cards based on the G550 are expected to be priced similarly to the current G450 boards at around £100-£150, depending on memory configuration.

www.matrox.com

USB collaboration

Robert Tsien and Thomas Graff Thoger have put out a request for any developers working on an Amiga USB solution to join the Unified Amiga USB Development Effort.

Their aim is to bring together all of the various USB (Universal Serial Bus) projects for the Amiga to develop a shared open-source software environment. They will attempt to avoid a situation where there are multiple solutions with different APIs, so that drivers for USB add-ons can be shared between various solutions, and to speed

up development of USB for the Amiga by eliminating redundancy amongst the various efforts.

The solution will be hardware independent, able to work with a USB implementation which connects to the Amiga via Zorro II, Zorro III, PCI and even parallel or serial interfaces. Current efforts include both Zorro II and PCI solutions.

The team is currently preparing a proposed software architecture for the new system, and will make the proposal available to interested parties on their web site.

<http://netspace.net.au/~loofy>

Sharp chips in for future PDAs

Amiga PDA partner Sharp have announced details of a new SOC (System-On-Chip) design aimed at colour handheld computers, web appliances and smart phones.

The LH7A400 processor is based on a 200MHz core running at a claimed 220 MIPS, and includes an LCD driver capable of generating 16-bit 800x600 pixel displays, a USB1.1 interface, AC97 audio

codecs and support for SDRAM, Flash ROMs, SRAM and Compact Flash. It is due to ship at the end of the year priced at \$21 a unit (for 10,000 units), making it a strong contender in the price/performance stakes.

Party On!

Dutch Amiga retailer Computer City along with Dutch Amiga magazine Amiga Scene have announced a jointly-sponsored event for June 23rd of this year.

The Benelux Amiga Show and Amiga LAN Party will be held at the Dansschool Wuyster in Rotterdam between 10am and 5pm. Many new Amiga products will be shown at the event, including the Prometheus PCI busboard, VSS sound card and - last but not least - the AmigaOne.

The first floor of the venue will house a LAN Party where visitors will be invited to battle it out in head-to-head Amiga gaming contests, whilst the ground floor will house the exhibitors' booths and an Amiga Museum. Notable attendees will include Petro Tyschtschenko, famous Amiga musician Bjorn Lynne and, possibly, Amiga's Chief Technology Officer Fleecy Moss.

More information can be obtained from Bruno de Klerk at Amiga Scene (brunodek@worldonline.nl), Ron van Herk at Computer City (info@compcity.nl) or by visiting one of the official web sites at the URLs below. People wanting to know more about the LAN Party, meanwhile, should contact Mathieu Burgerhout at mbh@euronet.nl

www.compcity.nl/beneluxamigashow
www.compcity.nl/amigalanparty



News In Brief

Audio Evolves

A new release of the audio hard disk recording program Audio Evolution has been released, and is now available to download from the company's web site.

New features include a 'Grid Display' for showing MIDI bars and beats, and a 'Snap-to-grid' function. Several fixes (including Filesave bug fixes) are also present in the new release. We've put a demo of the latest version of Audio Evolution on our cover disc this month.

www.audio-evolution.com

Fame at last

Tim Berners-Lee, the British inventor of the World-Wide Web, has finally received official recognition for his invention, which must rate as one of the most significant technical developments of the last 50 years. Berners-Lee is to be made a fellow of the Royal Society, the oldest and most distinguished scientific fellowship in the UK.

Imagine on the move

Cad Technologies, developers of Amiga 3D rendering package Imagine have registered their new domain name, with their web site and e-mail addresses changing accordingly from cadtech.demon.co.uk to cadtechnologies.co.uk.

Although the old web and e-mail addresses will remain operational, users are asked to update their address books and web links with the new address.

www.cadtechnologies.co.uk

Aminet in Brazil

The AmigaBr user group and MMA Internet & Sistemas have announced a collaboration to provide the first full mirror of the Aminet in South America. The mirror is run from Bahia, Brazil, and is available at

<http://br.aminet.org/~aminet>

New Deal

The Deal Amiga Club has moved and changed its name. The club is now known as AmiSEX - sorry - SEK (Amiga Society East Kent).

Meetings will be held every Friday (with the exception of August, when we presume the lads will be doing the rounds of Summer festivals) from 7pm until 11pm at the St. John Hall, High Street, Wingham, Kent.

"We can also be found at the Kent Technofair at Canterbury for support," John Worthington informs us, before continuing - rather imprecisely, "they take place about every four weeks on a Sunday."

For more information, contact John at pagan@amiga.ca

Product Watch

It's a funny place, the Amiga market. Well, not so much funny as frustrating at times, as we wait for new products to turn up in the post (and hoping Bluey doesn't maul the postman).

You see, we'd love to bring you reviews of lovely new hardware and software - it's our job, dammit. Trouble is, we keep getting asked when we're going to review things that aren't even out. So, in a bid to clear up the pre-release tension of the average Amiga enthusiast, we present another fast and furious on-the-buzzer round of Product Watch.

Shows and exhibitions have been picked out in [blue](#)!

Imminent:

- **Shogo: MAD** - Giving it a good seeing to next month.
- **Repulse** - AA22, we hope.
- **JavaOne** - June 4-7, San Francisco, USA.
- **Mediator A1200 Z4, Mediator PCI 4000, SharkPPC G3/G4** - Note to self: Putting things like this in the 'Imminent' section doesn't make it happen.

3Q 2001:

- **AmigaOS 4.0** - Which will require one of the following:
- **AmigaOne** - See this month's lead news story.
- **Pianeta Amiga 2001** - Details have apparently changed. We await news.

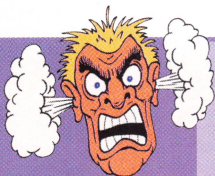
In the distance:

- **AmigaOS 4.2, 4.5, 5.0** - At six month intervals.
- **Many Games** - See this month's Active Gamer, p49.

Bzzzzzzzzzzzzt!

- **BoXeR** - Maybe they're re-designing it or something.

If we've missed something out, please tell us! E-mail upcoming@amigactive.com



Rants and Raves

Advertising in the Fifth Era

As digital devices become more pervasive, how should Amiga promote their brand? Larry Bolch argues in favour of a minimum-cost approach.

Should Amiga Inc. divert a big chunk of their development capital into advertising in the near future? Or would they be squandering precious resources at a time when technology companies are finding it hard to raise capital?

Amiga's business model is illustrated by the Sharp deal - negotiated face to face between CEO Bill McEwen and Sharp management. Amiga Incorporated will do business this way. When product ships, advertising becomes the responsibility of the hardware company.

The Personal Computer Era

Amiga was the last new personal computer operating system to have any success in the consumer marketplace. It was introduced in 1985, and there has been no other successful system since. A decade back, choice of CPU and operating system was a lifestyle-altering choice to make. It clearly defined the camp you were in.

Linux is neither a personal operating system nor significant in the consumer marketplace. Be failed to make it to the retail shelves. Apple preceded AmigaOS by about a year, and Microsoft has about three years' seniority.

Since the combination of AmigaOS and AmigaDE adds a dimension that Amiga can use for scaling, desktop applications are a bonus - for both us and them. Because of



Above: The only downside to the pervasiveness of digital devices is you'll have nowhere to sit...

"What the device does is far more important than how it does it."

familiarity, we've all been focusing on the desktop aspect of Amiga's plans, but it may be a minimal segment of the business. The fifth-era has barely begun, and Amiga are in an excellent position to capitalize on the array of devices that are coming to market.

Digital Devices

What the device does is far more important than how it does it. As I write this, I am surrounded by fifth-era devices and appliances. Within arm's reach there is a router/firewall, eight synthesizers, MIDI controllers, a LaserDisc player, CD player, digital camera, ADSL modem and digital TV-cable receiver. These are pure digital devices and as such must have an operating system - but there is no way of finding out which OS is running on any of them. I have even upgraded the OS in some devices, and still have no idea. It does not matter.

Once you move beyond the fourth-era PC, a device's function (rather than the hardware or the OS) is really all the user sees. I bought each of the synthesizers I own based upon sound, price and how they fit into my way of making music. Knowing what CPU and OS they used would have made zero difference to my purchasing decision. The Amiga Digital Environment (AmigaDE) is going to be hardware independent, so millions of users will reap the benefits without even knowing it.

To be competitive, manufacturers seek out and use the system that is most practical for their device. They may - or may not - share this information with users. Thus it is up to Bill McEwen and his staff to make manufacturers - not users - aware of the power of AmigaOS and AmigaDE. This is done through personal contact, not advertising.

Desktops In the New Era

Microsoft is still the 1200-pound gorilla, so sits wherever it wants. Given a billion dollars in financing, Amiga could hardly make a dent in Microsoft's domination of the desktop. Luckily, the digital world has grown far beyond the desktop, providing virgin territory for Amiga to conquer.

Amiga desktops will be useful as powerful entry-points to the home network, and as primary devices in various vertical market applications. They will be outstanding for controlling and configuring other devices, and they will be ideally suited to information acquisition, content creation and display. The desktop configuration will not disappear in the new era, but we - ourselves - will change in the way we relate to our desktops as part of a distributed environment.

Since the AmigaDE will scale well, there is no reason why it should not be used if desktop manufacturers wish to assume the risk. I am sure that Amiga will co-operate fully in marketing these desktops, but it would be stupid for them to put all their eggs in this basket. It is no longer 1985.

Larry Bolch 

Gimme Five!

What **are** the five eras of computing, anyway?

First era - The experimental monsters
- UNIVAC, ENIAC.

Second era - Batch processing.

Third era - Time sharing.

Fourth era - Personal computers.

Fifth era - Pervasive digital environment.

Rants and Raves



Service With a Snarl

Ever been really dissatisfied with the quality of a retailer?
Think the Amiga market has it bad? Read on...

One common thing we read in letters of complaint about Amiga retailers is *"this would never happen in the PC market!"* The Amiga market has fewer retailers than the PC market, the theory goes, and thus less competition. Less competition, people assume, means less concern about losing customers.

I recently had an opportunity to see just how wonderful these PC companies are. I've been building a PC from a selection of parts, and to get the exact parts I wanted I ordered from three different retailers: Aria (aria.co.uk), Microdirect (microdirect.co.uk) and The Overclocking Store (theoverclockingstore.co.uk). These are not just random companies, but companies with a strong reputation for good service.

Aria

Aria's on-line stock numbers were inaccurate - everything was in stock according to their web page, but not according to their dispatch department the next day. There were long delays for a part, which wasn't their fault, but I was not happy to find out that by the time I gave up and asked them to send me the rest they had run out of stock of another part. I had already ordered that; they shouldn't have sold it on.

I was unhappy to hear that they don't send a confirmation e-mail when the package is sent. Given the delays this is really bad - it meant I had to keep calling them to ask. I was told that the lack of confirmation e-mails was due to limited staffing, but it must have taken up an awful lot more staff time to keep answering the phone.

Having said all that, the people I spoke to were unfailingly polite and helpful. I got the impression the problems were more to do with oversights in company methodology than poor customer service from the staff. They are also pleasantly cheap.

Microdirect

Their website is informative enough, but if there's actually an on-line shopping facility there I couldn't find it. One quick phone call secured my order, and it was delivered safely the next day as promised. Top marks, although frankly the order was so straightforward that any company ought to get top marks.

The Overclocking Store

A great web site includes links for comments by users and staff for every item, which really makes for informed choices. Product descriptions never say things like *"be warned: it doesn't fit on motherboard xyz because there are some capacitors in the way"*. Prices are keen and they have a good order confirmation system.

before buying from them, because not knowing when to expect your delivery is simply too much hassle to be worth it - but their helpfulness and good prices make them worthwhile. The Overclocking Store made a mistake, but they showed excellent customer service in going that bit further to rectify their mistake, so I would order from them again in an instant.

This is why we don't normally print letters complaining about Amiga retailers. We don't ignore them, and if a bunch arrive about the same retailer we know something's up and can warn our readers about it. Having said that, we normally get more praise than condemnation of any Amiga retailer, so we assume that the complaints are just unfortunate accidents. Amiga retailers aren't perfect, but in an imperfect world most of

them are doing a good job.

It's true that we do have something of a culture of poor customer service in the UK, but many of the companies in the Amiga market actually

"...many of the companies in the Amiga market actually provide exemplary service. Unfortunately, they also make mistakes."

Unfortunately that's where it went wrong. My order was processed and ready for dispatch in no time... and still ready for dispatch a week later. A sharp e-mail pointing out they were running very late and suggesting they upgrade me to next day service and post it straight away to them garnered a response which suggested that they hadn't actually read my e-mail; a courier with the parts the next day demonstrated that they had.

Learning from mistakes

Two out of three orders went wrong in some way, and the one that didn't was the simplest of the lot. However, I would use any of these companies again, because nothing suggested that I wasn't just unlucky. I'll now call to confirm that Aria have parts in stock

provide exemplary service. Unfortunately they also make mistakes. Find the ones you really like, compare the prices, and inform them in a firm but polite way if anything goes wrong. Don't kid yourself that they will never make a mistake, because nobody is perfect. But equally, don't kid yourself that you'd get a better service in any other market.

Andrew Korn **A**

interact !

Agree? Disagree?

If what you've read on these pages has made you think, we'd like to hear your views. Write to us or email the usual address...

interactive@amigactive.com



Now that's what I call Software!

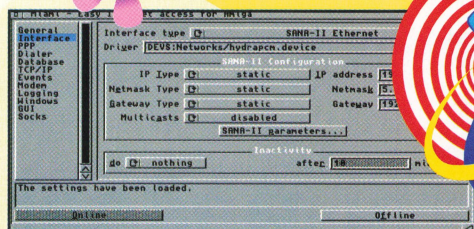
Welcome, prog-pickers!
Amiga Active presents
the top 10 Amiga
programs of all time.

Over the years, the Amiga has been blessed by some spectacularly good software. Choosing a top ten is therefore a daunting task, but that's exactly what we asked of our readers in a recent survey on our web site. We requested people tell us what they thought the very best commercial software, published at any time during the Amiga's history. We took the results, fed them into a spreadsheet, and collated all the information. So, without further ado, here it is: the top ten greatest commercial hits, as voted by the Amiga using public.

Miami

Beating Lightwave to the 10th place spot by a single vote is Holger Kruse's TCP/IP stack, Miami (and Miami Deluxe). Back in the mid nineties, before Bill Gates and Al Gore kindly invented the Internet for us, Amiga users lived in a dark age of hard-to-configure TCP stacks with user-friendliness that would make a UK railway company blush. Along came Holger Kruse and Miami, and the world of the Internet was opened up to Amiga users without degrees in rocket science.

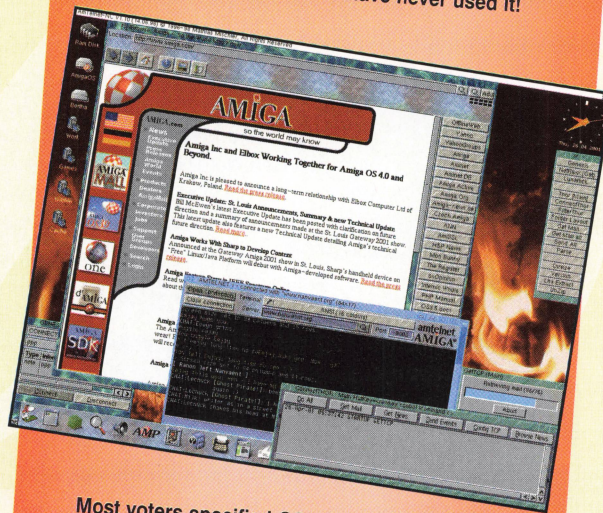
Miami has continued to be the stack of choice for many people, whilst Genesis has provided a viable alternative in the form of the AmiTCP stack and a nice MUI front end. Miami, remains the favourite and retains the respect, with Miami Deluxe providing a feature-rich stack that puts a great deal of control in the hands of the user, and is considered by enthusiasts to be the best TCP/IP stack on any platform.



Amiga OS



It's not really what we were thinking of, but so many voted for it we couldn't leave it out. The Amiga's own operating system doesn't need any introduction - we can't have too many readers who have never used it!



Most voters specified OS3.5 or OS3.9, indicating that in general people approve of the recent updates. A small number of voters did indicate that they preferred older versions. A couple of people opted for 1.3, and one even chose OS4.0 - although we discounted that vote as he was clearly only guessing!

It should come as no surprise that the OS gained a high rating from so many voters. After all, it's the single piece of software that matters most - if you don't like it you won't be using an Amiga a whole lot, which is something you can't say for anything else.

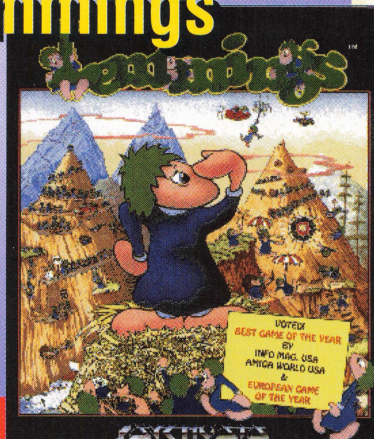
TOP 10 GAMES

Amazingly for a computer that was supposedly "just a games machine", no games made it into our top ten of commercial software, and only one scrambled its way into the top 20. Never mind, here's the countdown of the most popular games that were voted for!

- 8 Dune 2
- 8 Napalm
- 8 Quake
- 6 Heretic II
- 6 Monkey Island II
- 5 Civilisation
- 4 Monkey Island I
- 3 Sensible Soccer
- 2 The Settlers



Lemmings



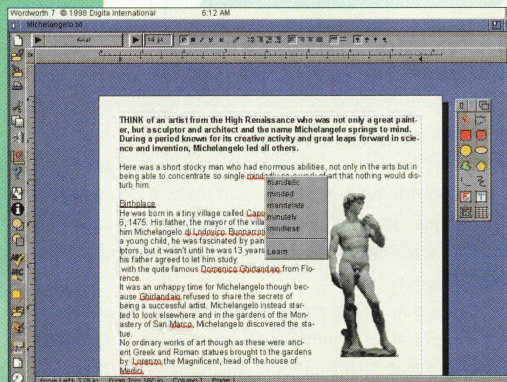
"...no games made it into our Top Ten..."

Wordworth



Tied in 7th place with Photogenics, it's Digita's Wordworth. When word processors discovered that pages could look prettier when they didn't just dump ASCII to the printer, Digita were there to provide Amiga users with a nice modern package. It could do smooth fonts, it could have pictures inserted into the text DTP style, and it gave Amiga keyboard bashers a spelling checker that could actually do a decent job.

Wordworth went through seven incarnations, and featured in various bundles, most notably the Amiga Magic Pack. Various cut down versions were released on cover discs, and Wordworth was everywhere. In April of 1998 Digita released Wordworth 7, with improved ARexx support, better DTP features and visual-feedback spell checking - a word processor which is still strong by today's standards. Digita themselves soldier on, writing market-leading financial software for the PC, but development on Wordworth ceased long ago.



"Scala for the Amiga was simply a beautiful fusion of software and hardware."

Photogenics

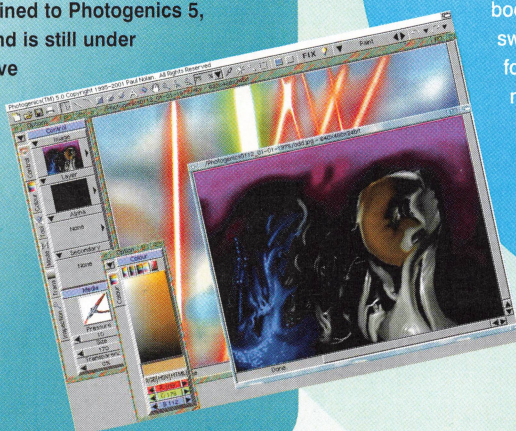
With exactly the same number of votes as Wordworth, Paul Nolan's unique paint package Photogenics has clearly wormed its way into the hearts of many an Amiga user, comfortably beating the likes of FXPaint, Brilliance and Art Effect to be the Amiga's favourite 24-bit paint package.

The first version of Photogenics was written by Paul Nolan at the tender age of 16, and was published by long-gone software house Almathera. Photogenics 1.2 was released as part of the Amiga Magic pack (along with Wordworth, above) and garnered a lot of attention with its innovative 'paint on', 'paint off' effects channels.

A dispute between Almathera and Paul Nolan kept Photogenics out of circulation for a while, but in the spring of '98 word spread that a new version was on the way. That new version arrived in '99, as Photogenics 4, providing all the great concepts of the old with a vastly improved interface and a new, far more portable codebase.

Photogenics 4 has since been refined to Photogenics 5, now a superbly capable package, and is still under continual development. Versions have recently been released on Linux and Windows, and a WindowsCE version is on its way. Photogenics continues to go from strength to strength. Paul Nolan told us:

"I'm proud and honoured to be voted into the top ten. I'd like to thank you all for your continued support, and will do my best to make Photogenics even better for many years to come."



Scala

Lest we forget, the Amiga is the machine that brought multimedia to the world, and Scala was the way of presenting that multimedia. A kind of interface generator and sequencer, Scala allowed the user to easily create a navigable set of multimedia data, from simple slide shows to complex information kiosk-style operations. An Amiga equipped with Scala was for a long time the best way to produce any kind of graphical display interface.

Scala for the Amiga was simply a beautiful fusion of software and hardware. It could produce an endless variety of wipes, transitions, effects, overlays and so on. It could place titles over a video stream, or launch applications through ARexx at the touch of a button. It used the Amiga's abilities at quick video level output and genlocking to fantastic effect, and for a while the world seemed filled with hidden Amigas running Scala to generate interactive displays, information booths and so on. Even today there are a people who swear by Scala for this kind of work, and Scala can still be found displaying information or interactive services in museums, on Cable TV information channels and many other places.

The world has moved on and so have Scala. However they left us with a product that is still remembered with great fondness, partly because it was such a joy to use, and partly just because it showed us how multimedia should be done.

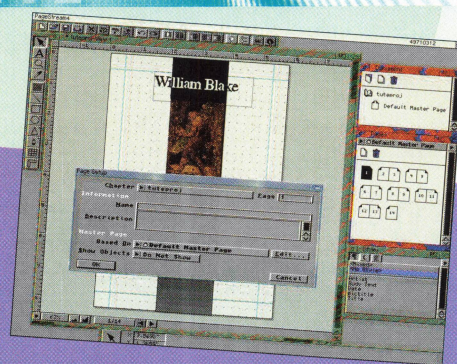
PageStream

Mac and PC users have Quark, InDesign and Pagemaker; the Amiga has PageStream. Okay, so Mac and PC users have PageStream as well, but we all know that the spiritual home of this excellent DTP program is the Amiga.

PageStream had competition for the Amiga desktop publishing market, most noticeably from Gold Disk's ProPage, but ProPage's developers Gold Disk are no more and PageStream has since gone from strength to strength. PageStream's interface may seem a little quirky to people used to other DTP packages, but it's an interface that becomes very comfortable for experienced users, and nobody would question the featureset.

PageStream version 3 was the first version that really brought top-end professional quality DTP to the Amiga, and the current version, 4, keeps the software bang up to date and is being continually patched and refined. This is particularly impressive given that the programming team is essentially one person, Deron Kazemaier, who told us:

"I would like to thank everyone who voted for PageStream. Your cheques are in the mail!"



"I sometimes find it hard to believe, but I've been supporting the Amiga for over 12 years now. Customers are always telling me that they keep their Amigas running because of PageStream."

"For those of you that have never tried PageStream, please take the time to find out why it has received such high praise year after year. For those of you with an older version, there's no time like the present to upgrade. If you've already purchased PageStream 4, thanks! No other vote counts as much as the one you make with your pocketbook. You are the ones who have made it a reality."

TOP 10 GRAPHICS

Graphics seems to be the most popular field of Amiga software, with eight products listed in the top 20 alone.

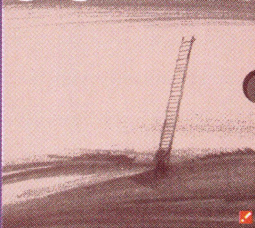
- | | |
|--------------|---------------------|
| 10 Cinema 4D | 8 Lightwave |
| 9 TVPaint | 8 Photogenics |
| 8 AD Pro | 6 ImageFX |
| 7 Imagine | Deluxe Paint |
| 6 Art Effect | No. 1 |
| 5 PPaint | |



Scala MultiMedia MM400

World
Voice
Features
Video
Rave
Quiz
Wipes
Fonts
Calatore

SCALA



FinalWriter



SoftWood's FinalWriter beats Wordworth, making it the most popular word processor for the Amiga. The winning margin was just over 10 percent, demonstrating just how close the rivalry between these two products has been.

Wordworth from UK developer Digita and FinalWriter from US based Softwood were two of the earliest attempts to bring the "word publisher" style of word processor to the Amiga. Over the years the two products played a cat and mouse game of feature additions, with each company doing their best to outdo the other in terms of features with each new version.

The final version of FinalWriter, FinalWriter '97, was released with DTP like functionality such as text boxes, finally allowing complete control of the document layout from within a program that excelled at all the traditional

word processing tasks too. It took almost a year for Wordworth to catch up with those innovations, but sadly SoftWood never released another version and so FinalWriter never had the chance to retake the crown. Despite this, FinalWriter just makes it as the more popular of the two packages, and to this day Amiga users can be almost tribal in defending which of the two word processors they prefer.

The only other word processor to get more than one vote in our Top Ten was the relatively new Amiga Writer from Haage & Partner, back in 29th place. This is the only word processor now in development for the Amiga, but perhaps one day H&P will release a new version which finally puts the debate between Finalwriter and Wordworth to rest by beating both of them.

3 ImageFX

Nova Design's ImageFX is yet another graphics package. It is also more than a little unusual. Graphics manipulation tools tend to be rather simple image processing programs for applying a range of effects to an image, or a fully featured paint package which offers the ability to create marks rather than just distort them. ImageFX is the big brother of the image processing programs, and it's prepared to give those pesky paint programs a good thumping if they don't watch it.

Feed ImageFX an image (or two, or three) and you have at your disposal in incredibly versatile range of filters and effects to alter that image in any way you see fit, Twist it, trim it, shrink it, colour it, slice it, bend it, morph it, sharpen it, bubble it; give it borders, give it tints, give it a lens flare; use it, misuse it, abuse it and reuse it. The range of options seems limitless, and the settings for each option seem to introduce yet another layer of limitlessness ["?!"] -Ed.]

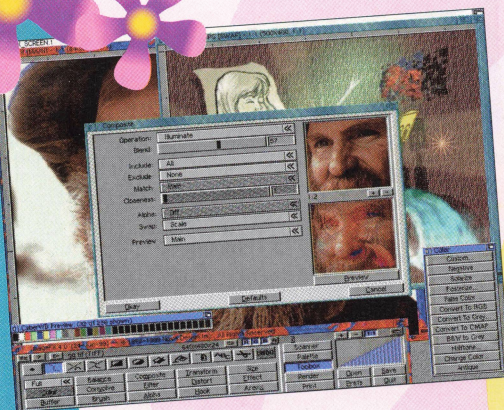
ImageFX's great flexibility with bitmap manipulation and the wonders of ARexx combine to bring a great degree of

automation. Heavy-duty multi-frame manipulations can be easily performed, handy for that spy satellite downlink, or to tweak something across multiple frames of animation.

ImageFX has often been called a workhorse application. Possibly, but if so, it's Superman's horse. It's one of the few programs in our top ten still being actively supported and sold, and Nova design has a name that brings a smile to the face of many an Amiga user (that name is Kermit Woodall, but let's not go there).

Kermit Woodall told us:

"I'm humbled and thankful for this recognition for Nova Design and our flagship product ImageFX. We're glad you like ImageFX and we plan to continue with it into the future! We'll be using the prize money from this award to solve the growing problems of world hunger... what? What's that? No prize money? Oh, sod off then!"



"Possibly, but if so, it's Superman's horse..."

2 Deluxe Paint

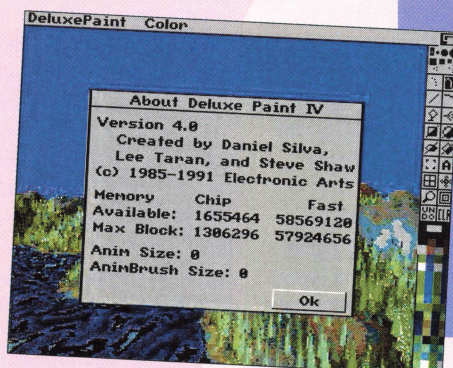
Although now long-departed and much improved on, DPaint gained an amazingly high vote, coming second overall. Given how long it has been since the last version was released, it's a little surprising that the program attained such a high ranking, but then this is Deluxe Paint we are talking about.

Released very early on in the Amiga's history by Electronic Arts (now a massive games publisher for other platforms), Deluxe Paint wrote the book on graphics paint software. It gave the user all the necessary tools in a convenient side-bar and created the basic look that almost every graphics package still uses today. It allowed you to pick up areas of the image as a brush and paint with it, or manipulate the brush in a range of different ways - and brush handling remains one area that Deluxe Paint still, in some ways, stands out today.

In a rare masterstroke, Commodore struck a deal to bundle Deluxe Paint with new Amigas, providing an immediate demonstration of the cool things the Amiga could do and inspiring an unparalleled degree of creativity amongst Amiga users which remains to this day.

Electronic Arts revised and upgraded Deluxe Paint through five versions, each one adding new features. It is still capable of great results and is considered by some as the high point in 8-bit graphic creation, but DPaint never made it to 24-bit colour, and for that reason alone is in truth no more than a piece of our history - but what a piece.

"...no more than a piece of our history - but what a piece."



Directory Opus

In the beginning was the CLI, and it was not good. Amiga programmers looked upon the CLI and decided to make life easier by putting two directory listings on the screen and allowing the user to apply commands to those files or move them around by simply selecting them and clicking the appropriate button. Thus CLIMate was born. CLIMate begat SID, and SID begat Directory Opus. And the multitude of the Amiga faithful looked upon Directory Opus, and saw that it was good. And then lo, they voted it as the all-time greatest piece of software ever written for the Amiga.

Directory Opus grew and was improved, and by version 4 it had become a program of great elegance and huge power. Users could easily configure buttons to do whatever they wanted. Archives could be unarchived to the destination directory of your choice with three mouse button clicks, and groups of IFF files could be shift-selected and turned into GIFs with a single control.

Directory Opus became so powerful that many users found themselves using it more than Workbench. This led to a radical rethink in version 5. From then on, DOpus used customised Workbench windows instead of

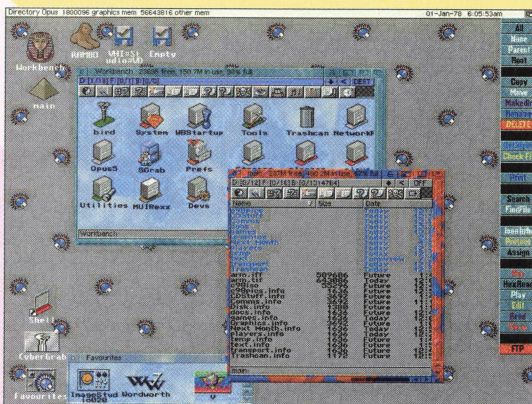
the split-screen approach of previous versions, and floating button banks could be created to suit the needs of the end user. Rather than being a separate application to Workbench, DOpus 5 could run in Workbench replacement mode, modifying the Workbench environment to bring all the power of Directory Opus to directory windows, working with as many windows as were open, rather than just two.

This innovation did not go smoothly, and some resistance exists today - just over 10 percent of people who voted for DOpus specified the older version 4, but those who got used to it learned to love the vast power DOpus gave to the Workbench, and most of us will agree that a well configured DOpus Workbench is the single best OS user interface around. If Amiga want to make OS4.0 a really impressive piece of kit, they would do well to talk to GPSoft.

Greg Perry of GPSoft told us:

"Wow, how unexpected. We are all just so humble here, but we'd like to thank our producers, Jon's Mum, the Sri Chimney Society of East Anglian Sweepers and, ah, what was the name of that short blonde in Cologne last year..." **A**

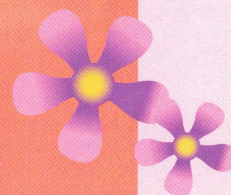
"...the single best OS user interface around."



10. Alien Breed: "BLAM! BLAM! BLAM! BLAM!"
9. Chaos Engine: "Rah! Big guns!"
8. Directory Opus: "It's the way Workbench should be."
7. Deluxe Paint: "It's the multi's nuts!"
6. ImageFX: "It helped me in my computer animation degree."
5. Lemmings: "Oh no!"
4. Miami: "Easy TCP/IP client. I wish we had a similar on the PC!"
3. Worms: "It wriggles!"
2. Wordworth Office: "It pissed all over Platinum Works"

TOP 10 COMMENTS

We asked for comments from our voters, and boy did we have a lot. We've gone through and picked our ten favourites, and here they are.



No. 1 Speedball II: "Bang! Smack! Oof! Aaaah! ICE CREAM!"

A Bluffer's Guide to the FUTURE

KEY



Due in OS4.0



Due in OS4.2



Due in OS5.0



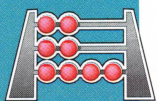
Hardware related



Software related



Buzzword bingo



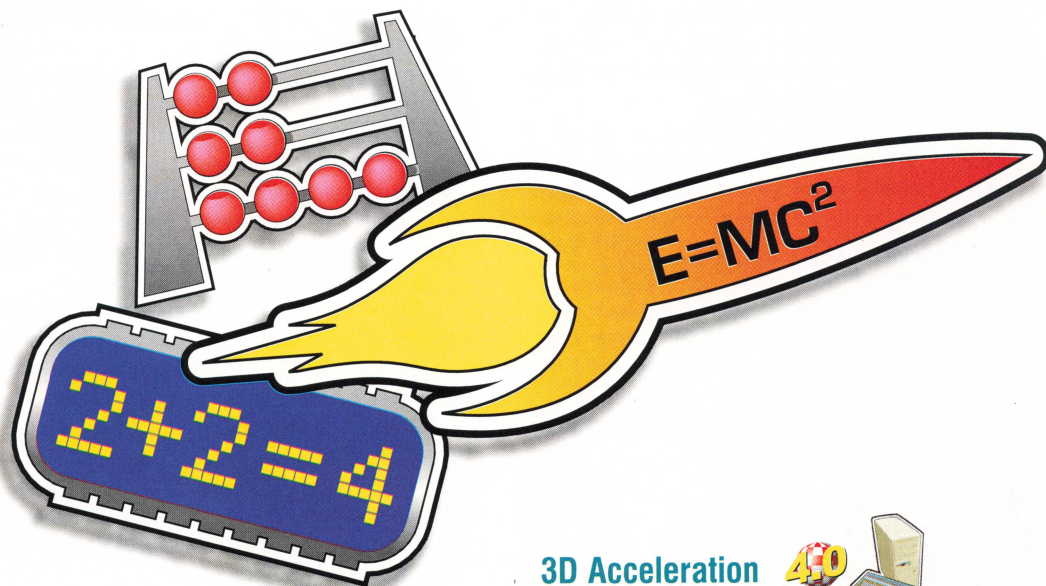
Simple explanation



Techie explanation



Rocket science!



So you've heard the news,
you've read the explanations -
but nobody seems to have
translated it into English yet?
Read on.

You may be an expert or you may be a bit of a beginner, but you've certainly learned a whole lot about your Amiga that is about to be made redundant. Nice as it is to have a new generation of Amigas finally on the way, it does mean that we've got a whole new language of terminology, buzzwords and TLAs (Three Letter Acronyms) to learn. It's all very well being a startup-sequence wiz, but do you know about Semantic Context and AmiRTA?

To help steer you through the minefield, we present this short guide to the terminology of the next Amiga. For easy reference we have included some simple icons to show you which version of the OS each technology is due to appear in, and whether the topic is hardware or software related. We've graded the technical complexity of the explanations, and where necessary (and possible) we've given both simple and hardcore techie explanations. So, without further ado, let's dive in!

3D Acceleration



See also: Mesa, Ami3D, Matrox



Using dedicated hardware (a 3D graphics card) to generate three dimensional graphics far more efficiently than the computer's CPU can manage.



The process of accelerating the drawing of 3D graphics by use of a dedicated co-processor which handles otherwise CPU intensive functions such as Z-buffering, texturing and transformation and lighting (T&L) to generate 3D graphics much more quickly than is feasible through raw CPU power alone.

ACM



The Amiga Component Model for AmigaDE is a system that allows software to be built up from pre-existing software modules which will be needed by multiple applications. The datatypes system in the current Amiga OS can be seen as a very limited equivalent.



An object component model written in VP (Virtual Processor) code for the AmigaDE which provides common interface modules for operating on datasets, allowing the interface to be shared by a number of sets or subsets. The ACM is similar to the COM and COBRA object models, and can be bridged to them.

AHI 4.0

See also: *Retargeting, EMU10k1, AmiRTA*



The Audio Hardware Interface. This simple piece of software was written by Martin Blom for Amiga OS 3.x to create a method for software to talk to any sound card without needing to know what that sound card is. Amiga are reworking AHI for PowerPC to increase performance, and will produce AHI drivers for the sound cards which will be supported in OS4.0.

Ami2D 4.0

See also: *AmiRTG, Retargeting, Matrox, Ami3D*



Ami2D is a low-level application interface for 2D graphics that will allow the programmer close access to the command set of the graphics chip for drawing 2D graphics.

AmigaDE 4.2

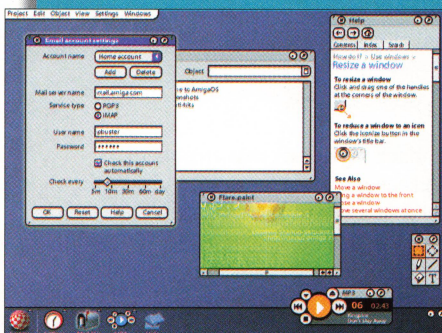


The Amiga portable Digital Environment, this will run on a range of low-end devices such as PDAs (Palmtop Digital Assistants) and Set-top Boxes (STBs). It can also run in "hosted" mode, where it sits on top of another operating system, allowing you to run software written for the AmigaDE on theoretically any computer.



The AmigaDE is built upon Tao Group's intent, a multi-platform environment which supports cross-platform binaries by compiling a pseudo machine-code, called VPCode, to a virtual processor at load time. The AmigaDE will include various extensions produced by Amiga.

AmigaDE will exist as a standalone product, providing the main user environment and multimedia features to the host system. For higher-end use it will run hosted on a variety of operating systems, using services from the underlying OS when they are not available in the DE itself. Running on top of AmigaOS from version 4.2, it will add support for features not yet present in AmigaOS - Java for example. By OS5.0 it should be fully integrated into AmigaOS.



Above: The AmigaDE might look like this. Or it might not.

Ami3D 4.0

See also: *Retargeting, Matrox, Ami2D, Mesa*



Ami3D is an Application Programmers' Interface (API) for 3D graphics on OS4.0 and above, being developed in conjunction with Hyperion. It will allow 3D graphics to be drawn to the screen without the programmer needing to know what graphics card you are using (as long as the card has an Ami2D driver).



Ami3D is a low-level 3D graphics API which will provide a less abstracted interface to the 3D hardware than Mesa. Similar in concept to 3dfx's GLIDE OpenGL variant, use of the Ami3D APIs will allow developers to optimise for supported graphics cards - although the dependence on the featureset of a specific card means that Ami3D drivers will be harder to write for alternative chipsets.

AmiFFS2 4.0



A replacement for the Amiga's Fast File System (FFS), the system by which the Amiga stores data on disks. It will be compatible with the current Fast File System, but will bring increased stability and extra power.

"...increased stability and extra power."

AmigaOS 4.0



This is the new Amiga Operating System. It is not the binary portable AmigaDE, but a development of the current Amiga Operating System, which will run on the AmigaOne computers and will eventually host the AmigaDE for home servers and desktop use. It will run on PowerPC hardware, although at first much of the current 68k OS code will remain, running under emulation.

AmiRTA 4.2

See also: *AHI, Emu10k1, Retargeting*



The new Amiga audio system, providing a common interface for all audio hardware.



A PowerPC native retargetable audio system. AHI and CAMD will be available in 4.0, but 4.2 will bring many extra features, including some advanced MIDI features Amiga are keeping closely under wraps at the moment.

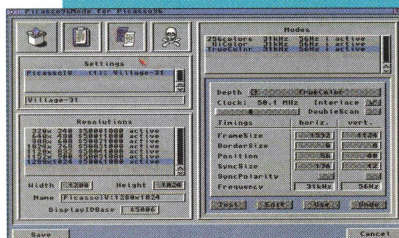
"AmigaDE will allow Java and DE content to run hosted on theoretically any system..."

AmiRTG 4.0

See also: Retargeting, Ami2D, Ami3D, Mesa



AmiRTG is a common interface for 2D graphics on OS4.0 and above, being developed in conjunction with the team who produced the Picasso 96 software for the current OS. It will allow 2D graphics to be drawn on the screen without the programmer needing to know what graphics card you are using (as long as the card has an AmiRTG driver).



Above: Picasso96 and CybergraphX already provide the existing AmigaOS with RTG.

Content layer 4.2



AmigaDE will allow Java and DE content to run hosted on theoretically any system, including AmigaOS 4.2 and above. When the DE's primary task is to give access to the programs and data available to the DE, it is termed a "Content Layer", indicating that it is the layer of software upon which content is delivered to the user.

EMU10k1 4.0

See also: RTA, AHI



An audio chip from Creative Labs which will be supported by Amiga in the new OS.



A sophisticated audio processor chip with real-time effects generation and support for environmental sound processing effects, AC-97 and EAX. The chip is one of the best low- to medium-cost audio solutions available, and is used in successful cards such as the SoundBlaster 5.1.

Multi-processing 5.0



The process of running software on more than one CPU at a time to increase the speed at which programs operate.

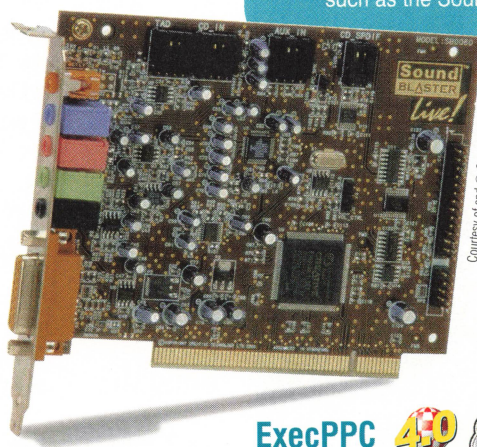


AmigaOS will support both Synchronous and Asynchronous Multi-Processing (SMP and AMP) from version 5.0. AMP describes a process whereby individual tasks are farmed out to different processors so that, for example, one might run a number crunching module while another runs an I/O module. In SMP systems, the job of processing tasks is distributed across two or more CPUs accessing a shared memory space. SMP is normally more efficient than AMP but is more problematic.



AmigaDE offers a unique variant of AMP: Heterogeneous Multi-Processing, wherein code translation is distributed - according to load - to separate instances of the DE virtual processor running on any number of CPUs or computers. This permits multiprocessing across processors which do not share a command set.

HMP mode operates a load balancing formula that will take into account bandwidth limitations of inter-processor communication as well as processing speed to distribute code modules optimally across a CPU cluster or network. The highly granular nature of VPCode significantly reduces the inefficiency of traditional AMP systems.



Left: The EMU10k1-based Soundblaster 5.1 player.

ExecPPC 4.0



A core controller for the AmigaOS that will run natively on the PowerPC chip, significantly speeding up OS operations.



The re-written PowerPC-native Exec kernel for OS4.0 and above. This will handle PowerPC native binaries as well as passing 68k binaries to a 68k emulator. It will also cope with mixed (68k and PowerPC) binaries.

Matrox 4.0



A Canadian graphics chip and board manufacturer, noted for producing superb display quality and video functions, although currently a little behind the leaders in 3D graphics. Amiga will be supporting Matrox hardware and will provide very low-level support for the Matrox featureset, allowing optimal performance from Matrox's hardware.

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My God, It's Full Of Stars!



Gaze at distant galaxies and pirouette around planets with Digital Almanac 3

This is the latest version of Achim Stegemann's astronomy program. Its purpose: to display a star chart on the screen, showing the sky accurately from a particular location. The user can then identify stars or galaxies seen either by the naked eye or through a telescope. In some setups, the program can also be used to automatically point a motorised telescope at an object of interest.

This latest version is supplied on CD only, and has to be bought direct from the author. To get around the problem of sending cash in an envelope, however, a PayPal account has been set up - see the web site (URL above).

What's new?

There are plenty of improvements in Digital Almanac 3 over version 2, which we reviewed back in issue 4. Calculating the positions of thousands of stars can be a slow process, so PowerPC support (via WarpOS) is certainly very welcome. There are also major speedups in the code: routines using trigonometric formulae have been replaced by fast matrix operations, and the formats of the star catalogues on disk have been optimised.

If you are using Digital Almanac with a 15-bit screen or better, the rendering of planets has been much improved. Big 24-bit images of the surfaces of the

planets and their principal moons are on the CD. These are detailed enough to allow an animation to include quite a close flyby.

The documentation was formerly an AmigaGuide file. In the new version it has been rewritten in HTML, which can be viewed on any browser. There is no printed manual; it would be nice to have the HTML also available as PDF, which could be printed by the user, but that may not be practical until the next update of Pagestream becomes available. As it is, the HTML docs are fine. In the German version, there is also now a set of tutorials. Unfortunately these have not yet been translated into English.

Hubble hubba!

As the program is now issued on CD only, the Hubble-GSC star

catalogue, containing more than 25 million stars, is now supplied as standard. There is also a collection of over 600 images in PNG format, mostly of galaxies. Installing all the supplied data to a hard drive requires nearly 500MB of space, but if you don't have that much available, the images can be accessed from the CD. Several pictures can be displayed on screen at once, as each defaults to opening in a new window.



Above: Spot the difference: Jupiter's high-res textures!

"...PowerPC support is certainly very welcome..."

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The latest version of Achim Stegemann's astronomy program hits Warp speed with version 3.

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Organise all of your data with a program that's been around since the dark ages!

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Sifting through another month's Public Domain offerings, we pick out the tastiest morsels.

36 Active Media

We do the same with the world's media as we do with Shareware, only it's a collective effort.

A program like this has many settings and can easily become confusing. In this version, the windows have been tidied up and made more logical. Attractive icons (with balloon help) now allow you to easily transfer an object from a catalogue window to the telescope control or animation windows. Once you have learned the meanings of the icons, balloon help can be turned off in the program's MUI settings. Added to this, the program now starts up very quickly, startup arguments have been simplified, and there is no longer any need to play a sound file while you wait.

The asteroid database can now be downloaded and updated directly from the Internet, by linking Digital Almanac to FTPMount (which is included on the CD). This is particularly helpful, as new asteroids are being discovered all the time.

If you have OS3.5 or above, printing is now done directly instead of through Turboprint, as OS3.5 has an improved printer.device. However, I had trouble with this, which I suspect is due to OS3.5/9's printing problems rather than to Digital Almanac itself. It seems to be safer to save the current star map as an image and print from that.

How it Works

The Universe is a great big three dimensional fractal. In many ways an astronomy program is like a fractals program: you can zoom in closer and closer and see more and more detail. Digital Almanac works in two main modes: in one, it shows what you see through a telescope (or with the naked eye), while in the other (orrery mode) it shows a model of the solar system as seen from outside.

Most of the time, you will be in the viewing mode, which is reached from the Planetarium or Local Sky settings in the Map menu. The image produced by the program is called a Map, as it is usually a star map. The most important control window in this mode is the Telescope window, which handles zooming and navigation.

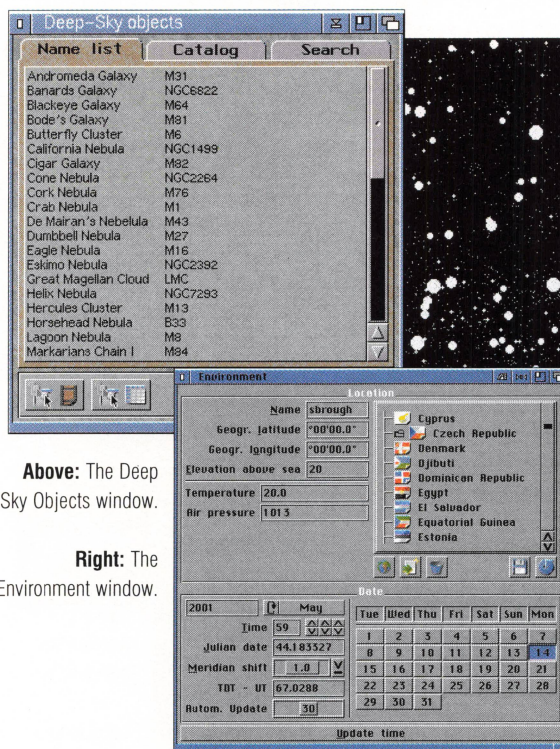
There are two parameters to set here: Where the telescope is placed, and what it is pointing at. Naturally, most of the time the telescope is on the surface of the Earth and aimed at some astronomical body. Pressing the Home button here takes you back to Earth - to set your location, open the Environment window.

ago, or will appear many years into the future.

To place the telescope on another planet, just select the planet from the menu in the Telescope window. You can even choose to put it on the Sun (it is just a geometrical position, after all). To place it on a moon, open the Solar System window, which

Lots of Options

The Preferences window contains many options, and there are other Prefs windows in the Project menu. Unlike a paint or DTP program which perform many different actions, DA3 really only does one thing: render an image from astronomical data. Settings are the bulk of the program.



Above: The Deep Sky Objects window.

Right: The Environment window.

The Environment window contains a list of planets and moons. Select a moon and hit the telescope button. Redraws are not automatic after making changes such as moving your telescope to a new position. This is because drawing the star map can take several minutes if you have millions of stars enabled, and if you're making several changes the redraws would never stop. Hitting RAMiga-D starts a redraw. The program can be set to redraw automatically every few minutes, which is useful if you are using the program alongside a real telescope.

At the bottom of the Environment window are the date and time settings. You can view the stars as they are now, or at any historical time, so you can view the constellations as they appeared thousands of years

ago, or will appear many years into the future.

The first tab in this window allows you to decide what to display, and which minor corrections will be made for absolute geometric accuracy. The author has clearly put a great deal of thought into implementing these corrections.

The main decision from the list of objects to display is whether or not to include the 25 million GSC stars. Generally, these would only be worth showing if you are zoomed in to display a very small angle of view, corresponding to a powerful telescope. Otherwise, including them is sheer greed, and will just slow everything down. ►

“For very fine calculations, it is possible to specify the temperature and air pressure...”

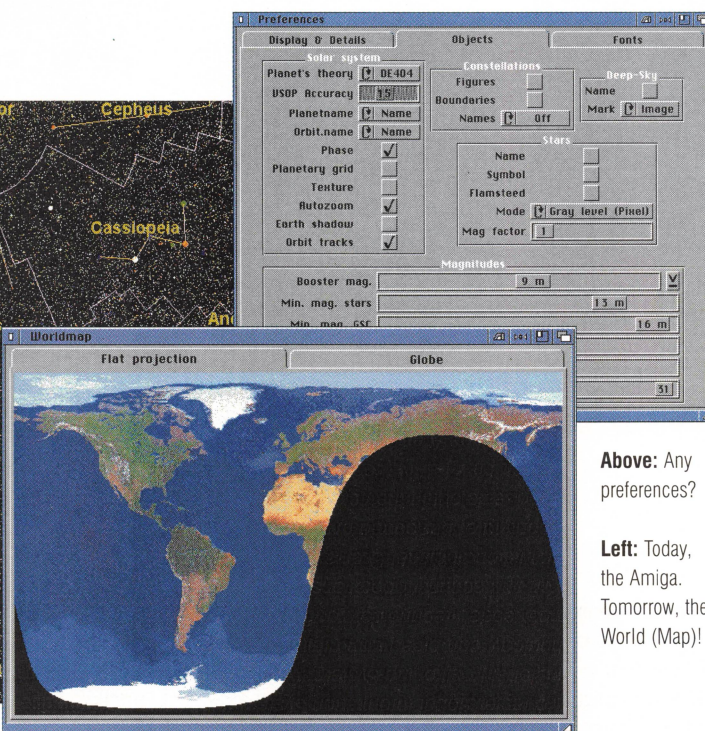
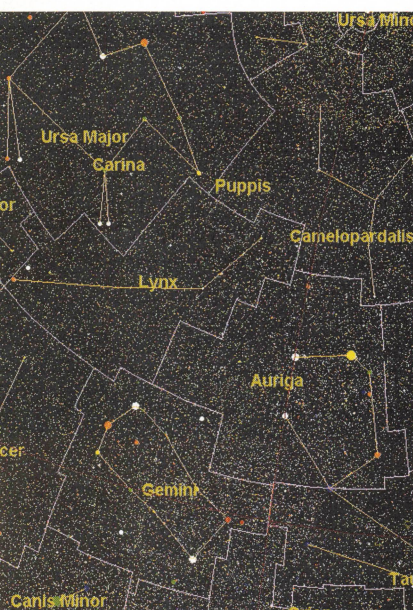
► Stars in your eyes

Among the other settings here, Night Palette draws the screen in red. This is so that if you are using the computer with a real telescope and your eyes have become well adapted to the dark, your adaptation is not spoiled by looking at a bright computer screen. For the same reason, the

Stars can be displayed either as single pixels of varying brightness, or with the brighter stars represented as various sizes of circle. I found that the pixel display worked best on a low resolution screen such as 640x480, while the area display was clearer at higher resolutions. It is also possible to indicate

Textures - detailed surface maps of planets and moons - are also included on the CD. If textures are enabled for planets, and if you're running the program in a 15-bit or higher screenmode, pleasantly realistic renderings of the planets are produced. The last tab in the Prefs window concerns font settings. This seems misplaced - it would be better grouped with the Colours window under the Project menu. Anyway, by using these windows, you can set the fonts and colours used for the names of objects.

“...capable of competing on equal terms with other astronomy programs on other platforms.”



Above: Any preferences?

Left: Today, the Amiga. Tomorrow, the World (Map)!

screen's title bar can be switched off - very thoughtful. The option to swap X and Y coordinates is also useful for working with a telescope which gives an inverted image.

The second tab in the Preferences window details the display of various types of object. The most important setting here is the maximum magnitude of stars and GSC stars to display. Magnitude works backwards - the brightest stars and planets have the lowest magnitude numbers. A maximum of 6 is plenty for most purposes, but if you want to emulate the view through a big telescope, set a narrow angle of view in the Telescope window and up the magnitude settings.

(roughly) the type of star by the colour of the pixels or discs.

Deep sky objects (galaxies) can be shown either as a plain circle with a cross at the centre, or as a small image of the actual galaxy. To view the full size image of a galaxy, open the Deep Sky Objects window and select your galaxy, either from a list of names or by number.

The Picture button opens a fairly small window - if this is enlarged, the image instantly scales to fit. Alternatively, there is a Pictures window containing a list of all the pictures. The selection of images is very complete, the only exception being moons.

Supernova or black hole?

Digital Almanac was a good program before now, and this new version has removed many rough edges and bugs. It is now both very stable (only printing caused any problems) and highly professional, capable of competing on equal terms with other astronomy programs on other platforms.

The only weakness here would be the lack of supplied drivers for various computer-controlled telescopes, but I am sure that if any user has such a beast, Achim Stegemann will do his best to help get it working with this program. Example code for a driver is provided, so all that is

Animation Creation

Three types of animation can be created with Digital Almanac 3: IFF-ANIM, MPEG or Quicktime. For MPEG and MOV, all the frames are saved to disk, and an external converter is then run. The frames will take up disk space, so a setting under Graphics Settings allows you to specify the path for saving.

You can also create a still image showing the trajectory or path followed by one or more objects. For example, I made an image showing the paths of all the moons of Saturn over about a month, as they orbited the planet which itself was travelling along its orbit around the sun. The result is a set of trails like those of a gang of dogs on leads. To make this I went into Orrery mode, which gives you a view of the Solar System from outside. Navigation is difficult in this mode.

needed is a command list. Otherwise, it is hard to think of any major improvements that could be made to this latest version of the program. Now that it supports PowerPC, Digital Almanac is a good candidate to be one of the leading programs for AmigaOS 4 and beyond.

Don Cox **A**

Digital Almanac 3

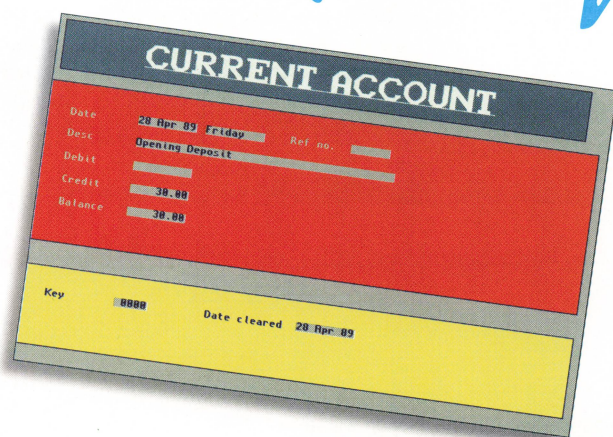
SYSTEM: OS 3.0, 68020, 8MB RAM, hard drive and CD-ROM.

SUMMARY: A highly professional program, well laid out and easy to use.



SBase4

Professional



This database program has been around for a long time. Is it still as good as ever?

Superbase has been around longer than the Amiga. I used to use Superbase64 on my C64 and still use a heavily modified version of a program originally written for the C64 version. Precision Software, the creators of Superbase, left the Amiga several years ago but the software wasn't lost. Mr Hardware Computers took over the sales and development of Superbase, calling it SBase4 Professional.

"SBase4 is a full-blown relational database."

First impressions

SBase4 is a full-blown relational database (see boxout), but a powerful database engine is only part of what the program offers. Powerful database facilities can often be complicated to use, when you sometimes want a quick, simple solution. SBase4's basic interface is easy to use, if

not particularly attractive. The main window displays records in three different formats, the most useful being Record, showing a single record at a time, and Table to show the contents of several records, one per line.

Below the main window is a toolbar with some VCR style controls for navigating through the file, which can also be done from the keyboard. A file is created by adding field names and selecting field types from a requester, you can easily add further fields later. It is not possible to change the order of existing fields but this is not a real disadvantage as you can use the Forms Designer to customise the layout of your data. Fields can be of various standard types, and the formats of numeric and date/time fields can be altered.

Fields can be read-only, where the contents are calculated from data input into other fields, or virtual. A virtual field is similar to a calculated field, except the contents are recalculated each time the field is displayed, instead of being saved to disk as with a calculated field. External fields contains a path to a file rather than the data itself. These are used to attach images or sounds to records.

Creating a database and entering data is a laborious task with any database program, so you'll probably want to load some of the supplied examples first, to

see how things work. SBase4 now comes on a single disk (earlier versions used as many as three) and while compression allows more to be saved on the disks, the range of examples is rather limited. SBase4 can also import data in a variety of formats, including CSV, TSV, dBaseIII and several spreadsheet formats, such as Excel and 1-2-3. Lotus 1-2-3 and dBase files are supported by most database and spreadsheet programs (respectively), so it should be possible to transfer data quite easily.

SBase4 can also export in these formats, making two way transfers easy. The magazine database on each Amiga Active CD is created in Filemaker Pro, exported as a tab-separated file for import into SBase4. Then a script in SBase4's own programming language is used to create the HTML files and indices for the CDs.

Searching and Queries

There's not much point in creating a database unless you can do something with the data afterwards. SBase4 offers many ways of searching for and presenting data. The simplest uses the control panel to scroll through records. Next up is a requester where you set up search criteria and then use the control panel to move through matching records. The search

► criteria can be as simple as looking for a name or as complex as you can dream up.

The Query functions allow you to set up detailed queries that present the data in the format you want, according to whatever search criteria you give and also provide reporting and summary functions. Reports range from indicating the number of matching records to applying financial and statistical functions to groups of records. Queries can be saved for later reuse. SBase4's queries are flexible and powerful, while still being easy to use. If you want the ultimate power, you need to get your hands dirty with SBase4's programming language, but for most tasks a query will do the job.

Programming extends the limits

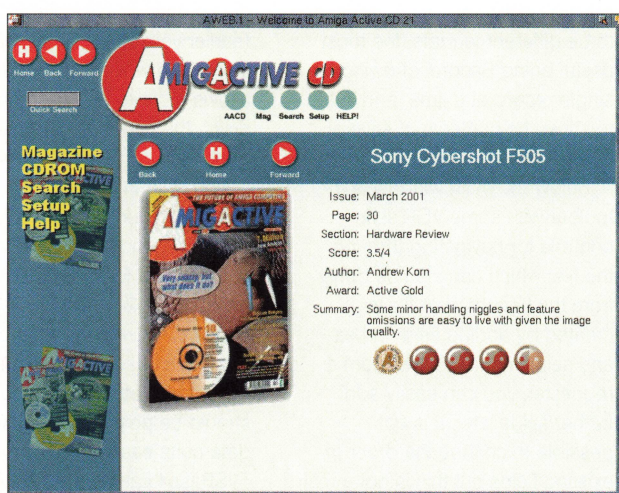
SBase4 comes with its own programming language, the Database Management Language (DML). This is a basic-like language, with many commands for manipulating files and data. The language is easy to pick up and is well documented in the manual with plenty of examples of the use of each command. DML is able to call external commands and run ARexx scripts, so it is quite easy to create a short program that manipulates data and passes the output to another program. One classic use of databases is to do mail merges, and SBase4 has this built in. With a DML program you can do e-mail merges,

Relational Databases

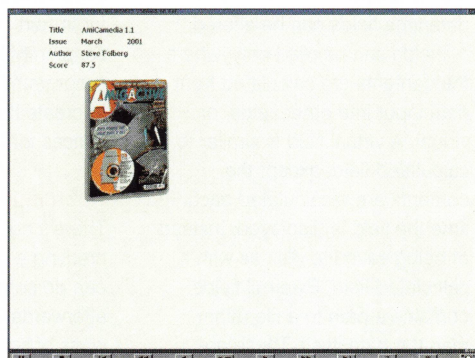
A basic database, known as "flat file", allows you to access the information from one file at a time. All the information you need must be contained in that file.

A relational database can link different database files together and extract information based on the relationship between those databases defined in the link. For example, if you wanted to catalogue your book collection, including information on the author of each book with a flat file database, you would have to store the same author information in the record for every book by the same author.

When you acquire another book by the same author, you would have to update all your other records for his books. If you thought that was messy, just wait until you buy a book co-written by him and another author. Nightmare!



Above: More data from the same file as the other screenshots, but this time DML has been used to turn it into HTML, ready for display in the AACD browser.



Above: Here is data from the same file, displayed in a form. Creating this form took only a few mouse clicks in the Forms Editor.

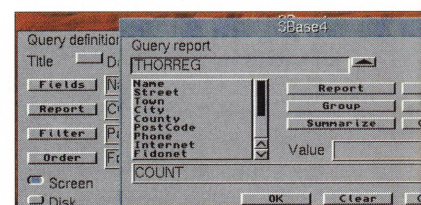
"This makes it possible to control SBase4 entirely from another program."

generating the information with a query and passing it to an external mail program's ARexx script. Queries are saved as ASCII files, so you can even create a query using requesters and then paste it into the DML editor, instead of working out the syntax of the selection and reporting commands yourself.

DML commands may be sent to SBase4's ARexx port by an external script. This makes it possible to control SBase4 entirely from another program, using ARexx to query the database and return data for use elsewhere.

Roll your own displays

The standard displays of SBase4 are bland to say the least. If you want a more attractive display, or something customised to a particular need, you can create a form with the Forms Designer. This works like a basic drawing package, you draw boxes and lines, add text in any font and colour and place fields from one or more files. Once placed, objects can be dragged around to move and resize them. When Superbase Professional was first



Above: Extracting simple or complex information from a file is usually only a matter of a few mouse clicks in the Query Editor.

released, the Forms Designer was most impressive, but now it is showing its age. Although it now works with RTG graphics cards, earlier versions crashed, it doesn't work that well. The toolbar was hard to read on a CyberGraphX screen. The palette mapping doesn't work well, with the menus on saved forms sometimes using the same colour for backgrounds and text, hardly the most readable combination.

A relational database would have two files, one containing book information and one for authors. If your Books file has fields for 'Title' and 'Author' and your Authors file has fields for 'Name' and 'Birth Date', you could list all books by female authors over forty years old with a select filter of:

```
Author.Books = Name.Authors AND
DOB.Authors < "1-Jun-1961" AND
Sex.Authors = "F"
```

The key part here is the first line that links the two files. This effectively considers each combination of records from the two files as a single record and extracts the information based on the rest of the selection criteria.

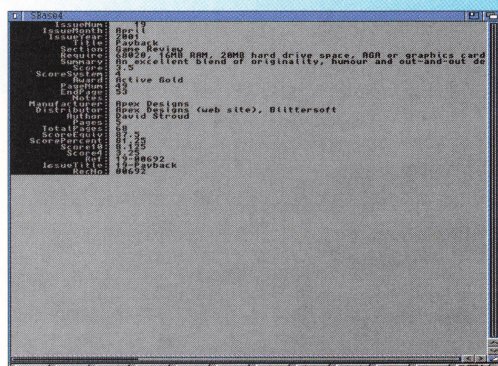
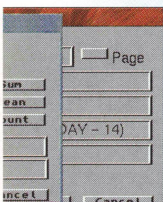
Glossary

Field: The smallest component of a database. A field contains a specific piece of information, such as an address or a reference number.

Record: An "entry" in the database, consisting of several fields of data. An example would be a record containing the name, address, telephone numbers and birthday of one person.

File: A collection of records, all containing the same set of fields. For example an address book file could contain the records in the previous example.

Database: A collection of files. A flat file database works with a single file at a time. A relational database system is capable of linking several files and processing information from them.



Above: The basic display is, well, basic. The information is all there and it is very fast, but that Topaz font belongs in a museum.

"...a powerful program, but one that shows its age at times..."

You will need a mode promoter to load any forms already saved with a native resolution. This is made more difficult by the way forms are opened on a screen with no name. I found that setting ModePro to promote any screens opened by SBase4Pro to my graphics card let me edit each form and save it out with a suitable screenmode. Promoting SBase4Pro opened the forms on a graphics card screen when opened from within Superbase, but loading and saving with the forms Designer gives somewhat better control, provided the forms won't be used on an Amiga without a graphics card.

Forms can also be used for data input. The form shows only the fields you set it to display, you can use this to restrict the data that a user is able to input or change. A single form can display information from multiple linked files. It's even possible to include fields from more than one record in a file. A form designed for the Books and Authors example mentioned in the "Relational Databases" boxout (above left) could include details of the author from one record of the Authors file, followed by a list of his books from the Books file, even though the number of books would be different for each author.

even referring to the original publisher in places. This isn't such a bad thing as the manuals were well written to start with. Although SBase4 can be easy to use, it is a powerful program and necessarily complex when really using it. It's not the sort of program that you can load up and start playing with and expect to get the most out of it. It needs good documentation, and these manuals provide it.

SBase4 is a powerful program, but one that shows its age at times, having been around since the days of Workbench 1.3. It does now use the more modern style of ASL file requester, unlike the old Precision Software version, but the menus still use the criminally ugly Topaz font, as do the standard displays, and the Forms Designer in particular needs some work to make it work properly with modern Amigas.

SBase4 is fast. It uses a buffering system to pre-fetch data from disk, which makes scrolling through records extremely fast, with the speed of the Amiga's display being the only limiting factor. Queries on database files that only display the final result, such as a summary report, fly along; and the documentation does a good job of explaining some complex topics.

Neil Bothwick **A**

Documentation

SBase4 comes with two manuals. The first covers the database itself, the SBase4 text editor and the Forms Designer. It provides clear instructions on setting up and using SBase4 from scratch. The second manual contains tutorials, a complete breakdown of the Database Management Language and some detailed example system using Forms and DML. These manuals are basically reprints from the old Superbase Professional manuals,

SBase4 Pro

SYSTEM: Almost any Amiga, but more memory and a faster CPU make a difference.

SUMMARY: A powerful program, but showing its age in places.



NextGen Watch



Amiga users in disguise!

Symbol hardware

In addition to an extensive range of bespoke scanners, Symbol produce several "Extreme Environment" units based on the popular Palm Pilot and Pocket PC platforms. These durable handhelds are intended for a variety of retail, industrial and military purposes, and incorporate the API to enable bar code scanning, Spectrum 24 and soon GSM. They have pen or touch input and of course retain their conventional PDA features.

What do 'The Boys in Blue', bar codes and the AmigaDE have in common?
Read on to find out...

Mick Slyfield and Jon Sawyer are both marksmen in the Thames Valley Police Protection Group based in the Windsor, Buckinghamshire area. Their primary role is to look after Royalty, the Prime Minister, sundry VIP's and other persons deemed at risk (witness protection schemes, for example). They are trained for certain anti-terrorist roles, firearms containment, close protection, VIP recovery and Armed Support/Response Vehicles. In addition, their anti-terrorist function takes them into their secondary role of specialised searchers: EOD (Explosive Ordinance Detection), major crime/incident scenes, search & rescue management and high risk missing persons.

Driving force?

Mick explains what drove them on: "A great deal of nonsense has been espoused about how Information Technology (IT) will solve all our problems (rising crime rate, failing Police numbers, low morale, etc.), yet no-one has quite explained how this will happen. Sure, many global IT systems do exist at the organisational/managerial level but in practice they often result in increased bureaucracy at the 'sharp end'. Would you believe that patrol

officers routinely spend an astonishing 40 percent of their time on administration?

"In a fit of righteous indignation brought on by a Jack Straw speech, and spurred on by an article by Fleecy Moss some years ago on Digital Convergence (DC), we thought we could do a better job of it. We decided that with the judicious use of DC we could take IT out of the Stations and put it on the street. We thought we could produce practical applications born of long experience, an unusually broad perspective (for cops, anyway) and some creative lateral thinking."

Jon continues: "It was our contention that Information Technology will never really benefit operational Officers unless it fulfils 3 basic requirements: It effectively and reliably delivers a particular application (i.e. it actually works), it significantly reduces paperwork (and/or saves time), and it is effectively invisible in use - officers should not be aware they're using Information Technology at all."

The partners

Without formal IT training, Mick and Jon had to do something to gain credibility, so to prove their concept they came up with a bar coded management system for Police firearms (a previous nightmare of unindexed ledgers and wishful thinking). This has proved a resounding success delivering significantly enhanced functionality, and they are even hoping to have it adopted as a national Police system and perhaps even to form the core of a civilian control system. It was during their extensive research that they made contact with Symbol Technologies, the multinational yet surprisingly enlightened technology developer.

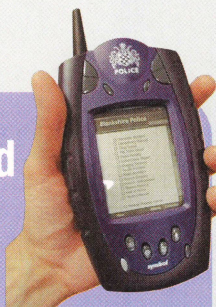
"Our proof of concept made use of several digital environments: bar codes and user-friendly application generation software (MCL), HTML, any (or many) standard databases, rugged portable computing (SPT 2700) and Spectrum 24 Wireless LAN. Our system was produced very quickly and economically and is extremely flexible. More significantly, we

"Our system was produced very quickly and economically..."

contrived to produce it from the outset with reusable technology.

"This whole exercise has led us into forming an exceedingly productive collaboration with Symbol's UK HQ at Winnersh, for which particular thanks must go to John Magowan, Paul Reed and James Morley-Smith (another ex-Amigan) whose unstinting support has been nothing short of outstanding. We are now in the process of establishing a formal business partnership with Symbol on behalf of the Force. In fact, our ideas have been so well received internally that we have established our own "Provisional Wing", better known as Digital Convergence Management Systems. We have been given the resources and free rein to research and develop a range of innovative applications for our Force, again with an eye on establishing national standards."

The proposed handheld device



Currently proposed specs for the handheld device (prototype pictured):

- * Pocket PC/Windows CE based (alas due to current user demands).
- * Integrated GSM communications (phone and WWW).
- * Integrated Spectrum 24 Wireless LAN.
- * Voice over IP interoperability (free comms).
- * Integrated barcode scanner and high definition 15 fps B&W digital camera (it works a treat).
- * GPS locator (used in several contexts).
- * Incorporation of all Force documentation (portable office).
- * Real time crime/incident recording and automatic proximity downloading.
- * Command and Control interactivity (Police command structure).
- * GIS systems integration (mapping features used with GPS and surveying hardware).
- * Seamless connectivity with all Force DC and conventional/legacy systems.
- * Eventual migration to integrated TETRA - compressed onto PCMCIA card (this is effectively a lower specified alternative to GSM, unfortunately the UK Police are committed to this Tetra/Airwave personal radio communication network).

Ongoing projects

Mick outlines some of their current projects:

"We are in the process of instigating Multi-functional Warrant Cards, which will encode photographs, biometrics and all relevant officer data/access/authorisation codes into a single 2D bar code.

"Symbol effectively own bar code technology..."

"Portable Global Information System (GIS) and Global Positioning System (GPS) technology, combined with digital photography and bar coded technology for major incident, search and security operations will enable the manipulation of digital Ordinance Survey maps and printing of bar coded property tags and security seals out in the field.

"Spectrum 24 LAN (Local Area Networks) and WAN (Wide Area Networks) incorporated in general purpose and major incident control vehicles, particularly EOD response vehicles, will lead to a significantly enhanced response to such incidents as the Lockerbie disaster, the Paddington rail crash and the Canary Wharf bombing.

"Our other project is a comprehensive range of modular bar coded, asset tracking systems covering such diverse areas as file tracking, duty recording, uniform and equipment inventories, buildings, vehicles and computer system access."

What about Amiga?

Symbol effectively own bar code technology and have literally millions of hardware units world wide. Mick and Jon both realised there were potentially huge benefits if both Symbol and Tao were able to integrate their respective technologies, and for the last year they have been talking to Symbol about virtual processing, hardware independence and the AmigaDE. They have also maintained a healthy dialogue with Tao and eventually managed to facilitate meetings between the two, and both sides have become very interested in the project. Such a union would indirectly benefit Amiga, because where Tao goes, the AmigaDE can follow.

Furthermore, they have also remained in contact with Alan Redhouse at Eyetech (who also has a background in bar code technology), who would very much like to run Spectrum 24 on the AmigaOne. Alan is particularly interested, as there are few, if any, networking systems as simple and as powerful as Spectrum24. Currently Spectrum24 runs happily on PCI slots and with Linux drivers. Naturally, Mick and Jon have already set up a meeting between Alan and Symbol in the very near future. **A**



Left: Soon, all cards and driving licenses could incorporate barcodes.

Spectrum 24

Symbol's rugged Wireless LAN enables mobile data and Voice over Internet Protocols (VoIP), including paging and intercoms. The AP3021 access point contains embedded HTTP servers: one unit will support up to 256 clients which can be readily increased with additional access points.

Frequency hopping offers secure data transmission with different layers of encryption/decryption, and is acceptable to the Security Forces and conforms to GCHQ security standards. A durable CB1000 Client Bridge extends network capability to printers and any other device with RS-232 serial or Ethernet ports.

The current maximum transmission speed of 2Mb/s should soon rise to 11Mb/s, although it is anticipated that this may well increase to a whopping 50 Mb/s in around 18 months!



Left: The Spectrum 24 wireless technology from Symbol

Who are Symbol?

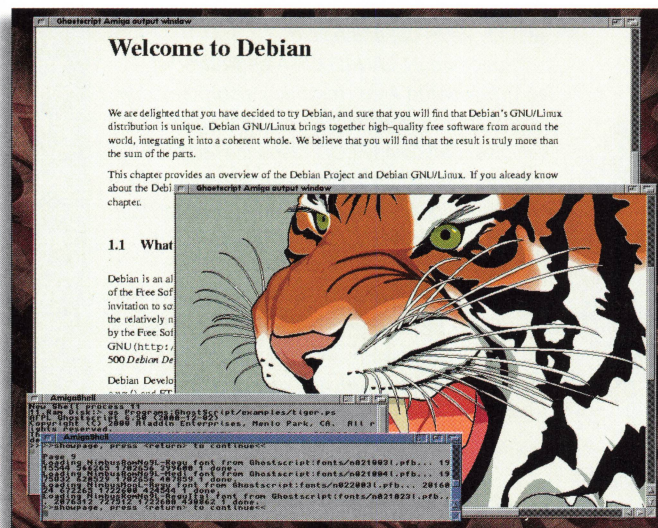
Symbol Technologies, Inc. have advertised themselves as the "Biggest company you've never heard of". Around 80% of UK bar code applications are theirs. Primarily technology developers, they supply their products and services through a global network of partners.

Symbol are global leaders in wireless and Internet-based mobile data transaction systems and services, giving customers unique value with innovative solutions utilising application-specific information appliances, data and voice wireless networks, and bar code/data scanning.

They provide LAN and WAN mobility solutions from the enterprise to e-commerce for industries including retail, transportation and distribution logistics, manufacturing, parcel and postal delivery, healthcare, education, hospitality, Justice organisations and the Military. Their web site is at www.symbol.com

Active Shareware

Get some ghostly help with printing, browse the web without images, smooth your fonts and manage your memory...



Left: At last! Ghostscript 6.50 on the Amiga... and with hicolour support.

Ghostwriting

The Amiga OS has never had very good built-in support for PostScript, Adobe's device-independent page description language. Okay, OS2.0 and above could print to a PostScript printer but that was it. Thankfully, over the years, various enterprising souls have ported successive releases of Ghostscript, the open source PS interpreter and rasterizer, to the Amiga. Until recently, however, the Amiga had fallen behind the cutting edge. But worry not: Ruediger Hanke has now converted the new AFPL Ghostscript v6.50 to the Amiga.

Ghostscript v6.50 offers several new features over v5.50 such as support for the latest specifications of the Postscript language, PS Level 3, and the PS-derived Portable Document

Format, PDF 1.3. Also, it supports the conversion or "distillation" of PS documents into PDF, including the ability to embed PS fonts in a PDF document. This Amiga port of v6.50 uses code from the earlier Amiga ports and doesn't really add any extra native functionality. What is new, however, is a port to WarpUp (although it is slower than the 68k version) and proper support for hi- and truecolour screenmodes.

Ghostscript can output to a variety of devices determined by which output drivers are built into the program. These allow the previewing of documents on screen, conversion to a host of different file formats or printing to a supported printer. As well as the usual range of

output drivers, on the Amiga it supports previewing in an Amiga window or screen, outputting to a Prefs printer and conversion to an ILBM. A special driver has been added to the latest Amiga version which integrates the program with TurboPrint 7.0 and lets you use Ghostscript as PS print filter with that package.

Things are not all rosy, however. Ghostscript still doesn't feel at home on the Amiga and can be a real pain for the novice to use, sporting the usual array of Unix-style command-line parameters, so you'll need to know your stuff.

Moreover, the windowed previewing mode is horribly primitive, simply allowing you to view the pages of document in sequence; you cannot step backwards or jump to an arbitrary page. On other platforms, GUI frontends abound to provide more comfortable viewing using Ghostscript, but none exist for the Amiga.

Still, if you need to print, preview or convert PostScript-based documents on your Amiga, Ghostscript is the only way to do it. The new features in this release make it well worth the upgrade.

"Ghostscript still doesn't feel at home on the Amiga..."

The Lynx effect

The Amiga is currently blessed with a crop of fairly accomplished browsers. The big three Amiga browsers support a range of features that the modern web surfer has come to expect - such as Javascript and (with an appropriate plug-in) streaming audio. However, for many browsing tasks, you don't need such frippery. If you just want to log in, download a page and read some information, graphics and sound are just window dressing. In these cases, a text-only browser is perfect for the job and often much quicker than its fully graphical brethren. Lynx is just such a browser, and an update to the Amiga port has just been released.

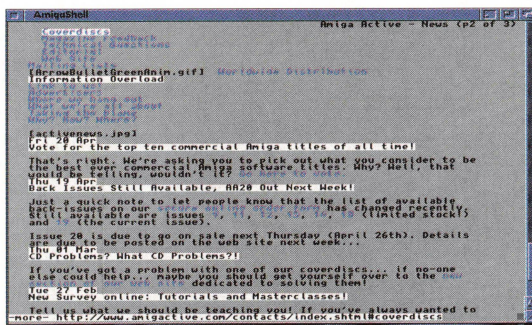
Lynx is fully-featured browser. It just doesn't do anything graphical.

Pages are rendered as best as it can manage in plain text. It can be used for browsing web sites, ftp sites and your local filesystem or as a newsreader - and this latest port has SSL (Secure Socket Layer) encryption for the first time on the Amiga. Frames are supported, but perhaps not in a manner that you are used to - you get presented with a list of frames as links which you may browse to - and table layout is sometimes a bit quirky. Nevertheless, Lynx lays out pages incredibly quickly and turbo-charges navigation. The one negative point is that there

is no cache system, so pages must be reloaded every time you visit them.

This new Amiga port has been achieved with the IXemul system. Consequently, it is rather fiddly to install. If you have a functioning Geek Gadgets install then all you need do is install the binary and the config file into your GG directory tree. Otherwise, you'll need to install the minimal GG distro provided and run the necessary startup scripts. This includes a new 16-colour terminal definition for the Amiga console device, which will brighten up your life a little.

Amiga Lynx doesn't include any Amiga-specific features. There's no mouse support, no requesters and no drag-n-drop. Still, Lynx is fairly easy to get the hang of and there's plenty of documentation supplied.



Above: Lynx - the minimalist's version of the World Wide Web.

"...lays out pages incredibly quickly and turbo-charges navigation..."

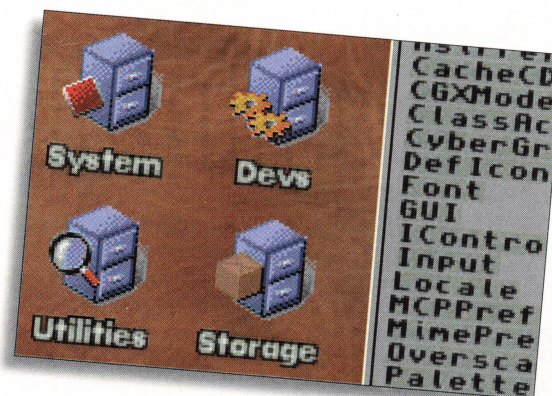
Smooth fonts

If you were to ask any Amiga user for a wish-list of features to be included in OS4.0 and beyond, anti-aliased fonts might be placed near the top. Various people have tried to hack such fonts into the existing OS with varying degrees of success, and now Stephan Rupprecht has had a go.

AAFont (see <http://home.wtal.de/stephanr>) patches the graphics library's Text() function, so that any such call made from the Workbench task is anti-aliased. This means that, for example, icon labels are smoothed, as are Workbench requesters (most of the time,

anyway). The text rendered by other processes is not. Even gadgets in Workbench requesters are a problem, however, since mostly they are BOOPSI gadgets. Hence, they get updated on the input.device's context, rather than as part of the Workbench task, and so are not always anti-aliased.

Then there's the fact that the Text() call doesn't supply enough information for proper anti-aliasing (for true anti-aliasing, the vector font that is the basis of the current bitmapped font would have to be known). The method that



Left: Not so much anti-aliased fonts as fuzzy fonts.

AAFont uses is more of a blurring than anything else, making it a less than adequate solution when all's said and done. Still, if used with the right fonts, you may get to like it.

Richard Drummond **A**

New MMU

Thomas Richter's mmu.library and related tools have received another update. For those not aware of this package, it attempts to provide an OS-legal API (Application Programmers' Interface) for Amiga software to access the Memory Management Unit of 68k processors. The eventual goal is to provide a basis to support virtual memory in a system-friendly manner.

Right now, the package contains reimplementations of various widely-used MMU hacks - such as the low-memory Shapeshifter patch and the SpeedyChip patch - and provides new versions of the 680x0 libraries - the libraries that, in the case of the 040 and 060 for instance, fills in any of the instructions which are not implemented in hardware.

Also included are mmu.library-aware debugging tools and the first stable release of the 68060.library, not to mention various bug fixes. If you have a 68k processor with an MMU, then you should really install mmu.library - if for no other reason than it consolidates all the nasty individual MMU hacks that you may already be using.

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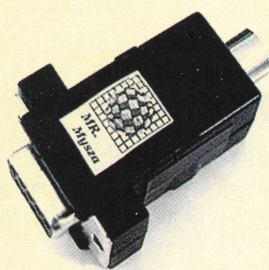
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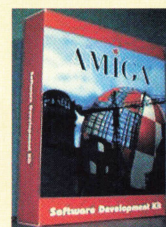
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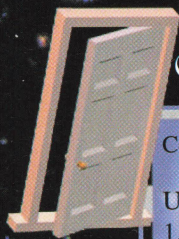
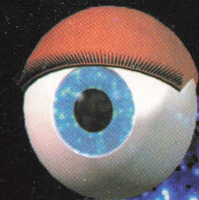
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Active Media

Learn how to animate a character climbing stairs, watch some Daleks who can't, carry out some experiments at home and browse our recommended web sites.

[digital] Character Animation 2

- Paperback, 300 pages
- Author: George Maestri
- Published by New Riders
- £31.19 from amazon.co.uk

George Maestri has previously worked on cartoons such as South Park, and has written a number of guides to animation including this book's predecessor.

This book tries to remember the essentials of character design and animation, from basic form and mood to posing, before going on to the practicalities of modelling on the computer. This makes a refreshing change from the examples in package-specific books, which tell you which buttons to push without explaining why the end result is visually pleasing. In contrast, this book explains artistic concepts first, before moving on to the practical techniques, and also provides generic tutorials for producing body parts such as hands and heads, which you can then customise to your own needs later.

After modelling, the author then moves on to posing and composition of your characters, and finally animating them. Animation is dealt

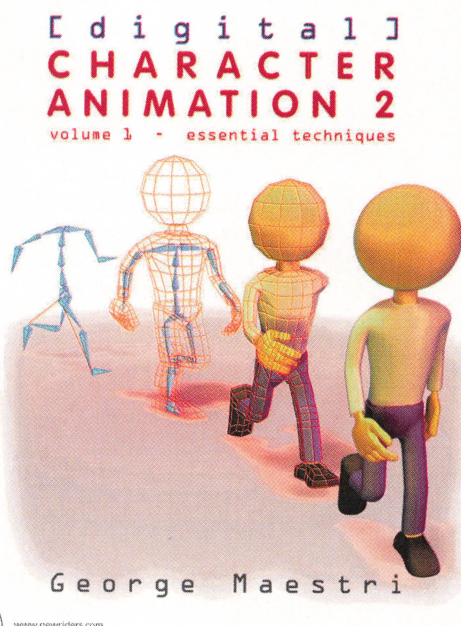
with rather late on in the book, serving to remind you of the importance of groundwork.

Brilliantly, the author doesn't expect everyone to have expensive high end software such as Softimage or 3D Studio Max, and covers modelling and animation techniques which, collectively, should work with just about any half-decent 3D animation package, which makes it superb for Amiga users. Many of the modelling tutorials presented produce very satisfying results very quickly for anyone who has shied away from modelling in the past, making it an excellent book for all skill levels.

"...superb for Amiga users..."

Perhaps the only down-point is that there are many useful topics covered in the original DCA which aren't covered here, though these will probably appear in DCA2 Vol. 2. Perhaps storyboarding should have been covered and facial animation and lip-sync left until the second volume. I also couldn't find any models on the CD in an Amiga friendly format, though the sample animations proved no problem, and illustrate some of the points in the book, especially the different walk styles, very well.

Philip Corner



Remembrance of the Daleks

- Region 2 DVD
- £19.99 from www.bbcshop.com
- More info: www.bbc.co.uk/cult/doctorwho/dvdvideo/remembrance.shtml

Ah, Doctor Who: Blue police phone boxes, long scarves, wonky sets, Cybermen, UNIT... and the sinister Daleks. The BBC's teatime TV science fiction and long-time cult classic is gradually being re-released on DVD, and

they're making a damn fine job of it too.

Remembrance of the Daleks was one of the last TV Dr. Who stories ever filmed, and the last outing for the Doctor's arch-enemies the Daleks. It has to be said, it was one of the finest Doctor Who adventures ever, and the DVD release does a great job of showing it off. Like all the re-releases - and DVDs in general - you get the basic four episodes and a variety of additional features, all bound together by a fairly well-produced interface.

For starters, you have a choice of additional soundtracks: the first is a nostalgic commentary by Sylvester McCoy (Doctor Who) and Sophie Aldred (Ace), which forms a

perfect complement to the episodes, whilst the second allows you to hear only the incidental music (which seems pretty pointless to be honest, but someone might find it interesting).

Deleted scenes and outtakes are also available, offering interesting glimpses into the story's ideas, along with a photo gallery and original BBC trailers which provide a sense of context. To round things off, the BBC have also included two multi-angle Dalek battle scenes, reconstructed from the original footage, though try as I might I just couldn't get them to work. Still, this DVD has to be an essential purchase for any Doctor Who fans.

John Chandler

It can't be done!

- TV Series
- BBC2, Fridays, 00:30am



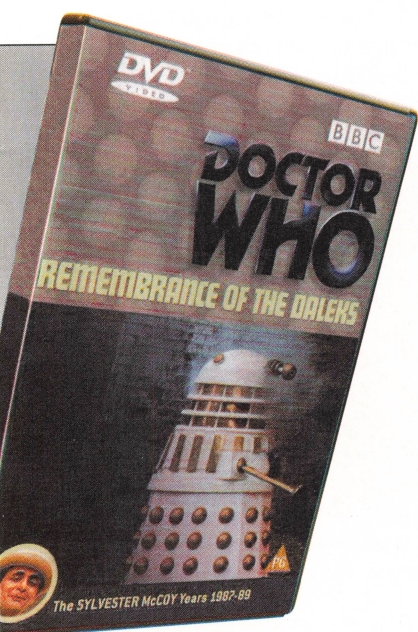
Above: Robert Llewellyn (right) is shaken and stirred by some wacky homegrown experiments.

If you like movies - especially the bits that seem to defy the laws of popular science - program your video or stay up playing Shogo until the early hours so you can catch Hollywood Science.

This new six-part series on BBC2 sees Robert Llewellyn (familiar to scientifically-enquiring minds as the bearded presenter with the megaphone on Channel 4's Scrapheap Challenge) trying to recreate incidents seen on the big screen in someone's back garden. Llewellyn is joined for each episode by research scientist Dr. Jonathan Hare (not to be confused with the chap from Sensible Software, presumably).

Catch the latter half of the series starting on June 8 - especially the last two episodes on June 15 and July 13, which explore the plausibility of Bruce Willis' fire-hose escape from the top of a burning building in Die Hard and the implausible flying bus scene from Speed. Recreated with models, presumably.

David Stroud



Press F1 with your nose

- Website
- www.eeggs.com

No, we're not wishing there was an over-supply of chocolate eggs every two months - these aren't the ones you get at Easter. "Easter Eggs" in this context refers to the hidden messages in software, films and books.

As well as various other forms of Easter Egg, eeggs.com contains a list of the strange messages you can get from a computer by pressing twenty seven keys simultaneously while balancing the mouse on your forehead... or something like that. From the rude message about Commodore in the A1000's Kickstart to a complete flight simulator in Excel, this site has a comprehensive list of Easter Eggs and the option to submit more information if you know of one that isn't already listed.

Here is the news... Boing!

- Website
- www.boingworld.com

Another Amiga news site? It does seem that there are sometimes more sites than news these days, but that's by the by. BoingWorld is themed, something that's becoming quite commonplace on news sites now. But this isn't another PHP Nuke site, and the themes aren't purely visual.

As well as being able to choose a colour scheme, you can also pick which categories of news item you wish to see. This is particularly useful as BoingWorld also carries news on non-Amiga topics. If you want a purely Amiga news site, BoingWorld can be just that for you, but if you want to read about a wider range of news, that's not a problem either.

Right: boingworld.com
Far Right: eeggs.com
Top Right: anybrowser.org

Best viewed in comfort

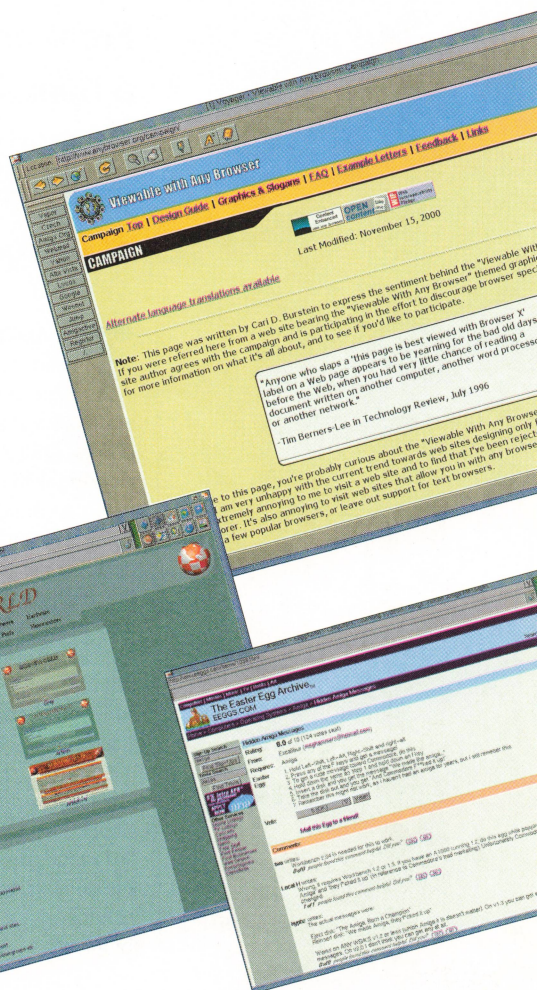
- Website
- www.anybrowser.org/campaign

"Anyone who slaps a 'this page is best viewed with Browser X' label on a Web page appears to be yearning for the bad old days, before the Web, when you had very little chance of reading a document written on another computer, another word processor, or another network." -Tim Berners-Lee in Technology Review, July 1996

Things have "progressed" since 1996. Instead of having web sites that are best viewed with a particular browser, we now have sites that are totally non-functional unless using the chosen browser of the "webmaster".

The Any Browser campaign is an attempt to bring back some sanity, where the web is about making information accessible to as many as possible. The site has a design guide to help you produce browser-independent pages, a selection of 'Best viewed with any browser' graphics for use on web pages, and some suggested letters to send to owners of sites that are restricted to certain browsers.

Neil Bothwick **A**





OS3.9

Masterclass part 2

From an ugly duckling to a beautiful swan of an Operating System. Transform your Amiga's OS with the help of *Amiga Active*...

The Amiga's operating system is a wonderful beast, it really is. Sure, it's not up there with Windows or MacOS on the 'professional applications' front, but in the user-friendliness stakes, OS3.9 is a pure joy. After countless hours working with other computer systems at the office, using an Amiga puts a smile back on many people's faces as they're reminded of the little things that it does so gracefully. In fact, it does them so gracefully that many people simply cannot appreciate them until they use another operating system.

Shame it looks like a bit of a dog's dinner when you first install it, then. I mean, who decided to let Topaz survive into the 21st century? And look at all that grey - it's like an English Summer, for crying out loud! Never mind though, because thanks to the beauty of the Amiga's operating system, you can change pretty much all of that, turning your bare OS3.9 installation with its dull requesters, bland shell and uninspiring backdrops into something much more pleasing. The first bite is with the eye, as they say in culinary circles. So, prepare for a feast...

Which fork do I use first?

If you're one of those people who shudder at the thought of turning a bare OS3.9 installation into something beautiful, join the club. It can be a daunting task, and everyone who's ever owned an Amiga will have gone through the same feelings of bewilderment and panic at some stage. There are lots of places you could start, and even more places you could finish (not that it's actually possible to finish, mind you). So much so that many people bury their head in the sand, content just to change their backdrop, and maybe select a different screen resolution or Workbench icon font if they're being really adventurous. If you're one of these people, you're missing out on a lot of enjoyment.

In working with OS3.9, you'll quickly learn which parts you can tweak, which parts you can replace with third-party add-ons, and which third-party add-ons are best for the job. You'll need to know about environment variables, startup-sequences, backdrops, fonts, icons, tooltypes, datatypes, requesters, shells, docks, hacks, patches and thatched cottages (okay, so we lied about that last one). Many of these things you can learn for yourself if you approach things in a careful, thoughtful manner - but it's always nice to have guidance, which is where we come in.

Any Preferences?

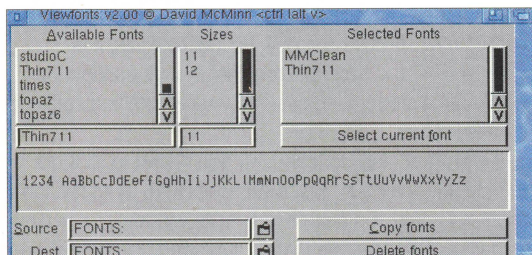
So you've installed the basics of OS3.9, right? Well, nearly. A couple of things we didn't cover last month were the options in the OS3.9 installer for adding Internet software and PowerPC support. So, if you've got



Above: One of the first things you should do is work your way through OS3.9's preferences.

a PPC card or you want to get on the 'net, go and install these parts of OS3.9 now - it only takes a couple of minutes. The Internet software provided with OS3.9 consists of the AmiTCP (Transmission Control Protocol) stack; a special edition of the AWeb browser; a simple e-mail client (AmigaMail) and Genesis (AmiTCP's front-end) including the GenesisWizard to get you online quickly and easily. PowerPC support comes in the form of WarpUp version 5 (updated to 5.1 with Boing Bag 1). We'll be delving into PowerPC concerns and Internet software later on in this Masterclass, but let's start at the beginning so as not to confuse anyone.

The first thing to familiarise yourself with is the Preferences drawer (pictured, below left), which is where all the programs for configuring Workbench are located. The first one of these to look at is 'Font' - get rid of Topaz/8 as the system default font and replace it with something a little nicer, like Courier/13. You've a limited choice of fonts to begin with, but there are plenty of freely downloadable fonts residing on Aminet. We've included some on this month's coverdisc, in AACD21:AACD/Magazine/OS3.9 along with all the other material to support this part of our Masterclass.



Above: ViewFonts2 will help you add fonts to your system with point-and-click ease.

When dealing with fonts, it's nice to have a GUI and only copy across the ones you actually like, otherwise you'll end up with tons of the things, the majority of which you'll never use. This is where our first recommended third-party add-on, ViewFonts2 (pictured, above), comes in extremely handy (it's also on our CD, of course). Just run this, point it at the collection of fonts we've provided on our CD, set the destination to FONTS: and scroll through, selecting the ones you like. When you're done, hit the 'copy fonts' button and all your selected fonts are copied across to OS3.9's fonts drawer.

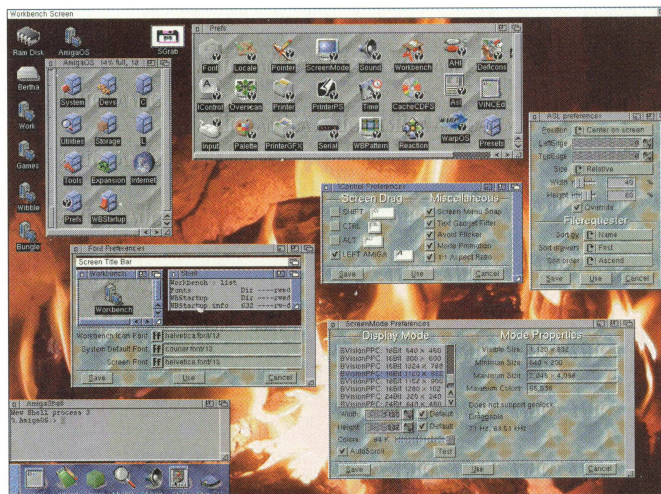
Go through all of the other Prefs programs and play with your settings, clicking on 'Use' to test each before you make a decision. As you go through the preferences for things like Pointer, WBPattern and Sound, don't forget about the options already available to you - select 'Load' from the menu and look at the various drawers in Sys:Prefs/Presets which contain additional pointer designs, backdrop patterns (if you decided to install them initially) and sound samples. We've put some more pointer designs, sounds and backdrops on this month's coverdisc if you're not satisfied with the default offerings.

The Workbench prefs program allows you to hide unwanted device icons from the Workbench screen and turn off the screen titlebar and disk volume gauges (the 'thermometer' style bars which show you how full your disks are, not how loud!). You can also tweak various settings to do with icons here.

The other notable preference options to look at are the '1:1 Aspect Ratio' setting in Icontrol for graphics card users; Reaction, where you can customise Workbench's GUI to a certain extent; ASL Prefs, which allows you to define where file requesters open on screen; and WBPattern, where you can select a nice backdrop image for your screen and windows - either choose from one of the many backdrops that came with OS3.9 (located in Sys:Prefs/Presets/Backdrops if you chose to install them), or - if you're more artistically inclined - draw your own. There is a third option - use a digital camera to create your own unique backdrop in a matter of minutes!

"GUIs are always preferable to opening a shell..."

Another addition to OS3.9, along with the latest version of WarpOS, is a preferences program for its settings. True, this is only for advanced users, but GUIs are always preferable to opening a shell - and you're suitably warned when you run the WarpOS Prefs program. This warning reflects another pleasing aspect of OS3.9: the added thought that has gone into various parts. The Screenmode Prefs program, for example, now includes a 'Test' button which opens a screen for ten seconds. If you can't see it, you'll get your old screen back automatically. If you can, you confirm before the



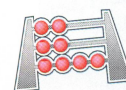
Above: When you've finished going through your preferences after a fresh OS3.9 installation, you should end up with something a lot prettier than the default settings, but we're far from finished yet!

countdown requester hits 0 and your screenmode changes. Even if you miss the 'Test' button and click 'Use' or 'Save', you're warned if you haven't tested a new screenmode. Such a good idea, it makes you wonder why it's only just been included in the OS - it will certainly save a lot of reboots!

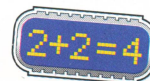
Explanations

A guide to some of the terms we've used in our Masterclass, and snippets of information concerning the more technical aspects of OS3.9.

Environment Variables

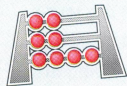


Should you save your preferences, or just use them? It depends how long you want them for: When experimenting with new settings in Workbench's Preferences programs, click Use to see what they'll look like. This saves your settings to RAM, so they will revert to their previous state when you reboot. It's all down to things called 'Environment Variables', a bunch of files stored on your hard drive (in ENVARC:) and copied to RAM when you boot your Amiga. Saving your preferences will write them to their original location in ENVARC: so that they are still there the next time you boot.

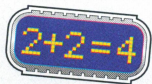


OS3.9 has a 'setenv' command for setting environment variables manually, but only in ENV:, not ENVARC:. The Boing Bag 1 readme states that you can now specify a 'SAVE' option to set them permanently in ENVARC:, but it didn't work for us, so instead, we used an undocumented feature of SetEnv - giving it the full path of an environment variable, such as `SetEnv ENVARC:foo "bar"`. If you just specify a variable name, SetEnv will put it in ENV:, whereas specifying ENVARC: forces it to go there instead.

Fonts



The fonts that come with OS3.9 are bitmap fonts (i.e. only intended for use on-screen), and there are two types of bitmap font: proportional and non-proportional (or 'monospaced'). With monospaced fonts like Topaz and Courier, all characters take up the same amount of space, whereas in proportional fonts (such as the one you're reading now), letters only take up the space they need, hence a 'w' is much wider than an 'i', for example. The Amiga's system font must be one of the monospaced variety.



Prolific programmer Stephan Rupprecht has written a couple of font utilities - CreateOutline (provided on the OS3.9 CD in Contribution/Workbench), which takes an existing font and creates a new drop-shadowed/outlined version to use for Workbench icon text (avoiding hacks); and aafont (see our CD, and this month's Active Shareware), which does a passable job of anti-aliasing fonts.

Essential additions

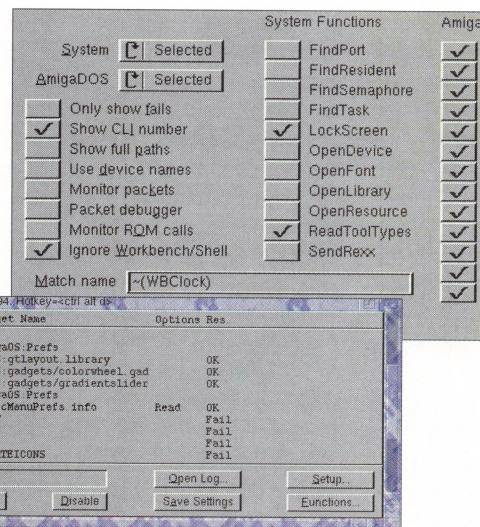
Running through the default preferences is the first thing anyone should do when re-installing or upgrading their OS, but given the starting point of a bare installation, it would be all too easy to jump in head first and spend a week or two just experimenting with additional tools and installing third-party software - a highly convincing argument to install OS3.9 on top of OS3.5 if you already have a highly customised system. But you might find that spending a couple of weekends every year or two completely re-installing your system is worth it, purely for the insight you gain into the inner workings of Workbench: chances are you'll discover plenty of things you didn't already know about as you read all that documentation you've got so used to ignoring. You may find out the simple reason one of your programs has never worked properly, or learn about the features in another tool that you never knew existed - and we speak from experience, because we're discovering new things all the time.

Going for the 'fresh install' option also means you can cut down on the amount of third-party clutter you add to your set-up and eradicate any incompatibilities that may have arisen due to a heavily modified system. OS3.9, for example, now includes programs like WBClock, Deflcons, RaWBInfo, ASyncWB, WBClock, IoTools and the AmiDock - so, if you've been using third-party utilities for some of the tasks now duplicated as part of the OS, read up on the built-in alternatives and see if you can switch to using them. For example, after much experimentation in the past, we came to the conclusion that TolleUhr was the ultimate Workbench clock, so were sceptical about OS3.9's WBClock. But we tried it anyway, found it could print the date under the clock face and had a nice GUI for the prefs, and so it has now taken TolleUhr's place.

"...the one essential tool that makes configuring your Amiga's OS and re-installing software so easy."

For the power user who already has a heavily customised system, but sees the value in using a fresh partition to migrate to OS3.9, third-party 'essentials' like MUI don't need to be installed from scratch - as long as you've put it on another hard drive partition, such as Work:OSTools/MUI. Now, chunks of your old user-startup script can simply be cut and pasted into your new one. All you may need to copy to your new system partition are things like keyfiles, which usually reside in Sys:/s/. In this way, you can easily get a fully customised MUI, Genesis and NetConnect all working on a clean OS3.9 partition within a couple of minutes.

This is where another essential third-party program comes into its own. Most people will have heard of SnoopDOS, but for those who haven't, we've put the latest version - uploaded to Aminet at the end of April - on our CD, so take a look. SnoopDOS allows you to



Above: Track down those elusive problems caused by missing files or misbehaving software with SnoopDOS!

monitor exactly what the Amiga's OS is doing - whether it's looking for files, checking an icon's tooltypes when you run a program from Workbench or trying to open a certain font, device or library. Because of this, it is perhaps the one essential tool that makes configuring your Amiga's operating system and re-installing software so easy.

If a program fails to load, you don't need to sit there tearing your hair out - just run SnoopDOS, try to run the program again and have a look at its window to see why it's failing. Chances are there's a missing file somewhere: problem is, if the program you're trying to launch doesn't report any errors, you'd be none the wiser. With SnoopDOS, however, you'll be able to see exactly what your Amiga is doing at the OS level, and be able to copy across that missing file, download the latest version of a library from Aminet or add the relevant tooltypes to a program's icon to get it running properly. Bliss.



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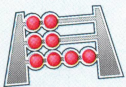
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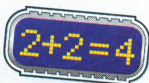
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Starting Up



There are three methods of starting programs whilst your Amiga boots. Essential tools to do with your hardware are usually added as lines in your main startup-sequence script (make sure they go in the right place!), whilst other tools, along with any relevant assigns, are placed in your user-startup script, which is run from a fixed point in the startup-sequence. If you want programs to start as Workbench loads, just drag them into your WBStartup drawer.



Running programs from WBStartup is sometimes preferable to adding lines to your user-startup script. Write the lines you would put in your user-startup to a separate file, save the mini-script with a Project icon and set IconX as the default tool. This will allow you to enable or disable the program in question simply by moving its icon in and out of the WBStartup drawer - no messing about with your user-startup script!



To save on space in your WBStartup drawer, just create a project icon and enter the program you want to run (including its full path) as the default tool. This way, you don't end up with two copies of a program on your system, and your WBStartup drawer hardly grows in size!

“...one of the first things to look at optimising are your icons, which come in a range of different styles and formats.”

► Something else that everyone's Amiga should do when it boots these days is run the ARexx interpreter RexxMast, so that you aren't denied the pleasures of ARexx scripts running whenever you want them to. The best way of ensuring this is run is to drag the RexxMast icon from Sys:System/ into your WBStartup drawer, although you may prefer to use the method described in the boxout on the left instead.

Icon see clearly now

Once you've got your essential programs up and running with OS3.9, many people's attention will turn to making their Workbench look good, and one of the first things to look at optimising are your icons, which come in a range of different styles and formats: Magic Workbench, Newlcons and Glowlcons.

The different types of icon format are standard, Newlcons and Colorlcons. The format of an icon determines how the image data is stored and how programs access it. You may have noticed that the word "Newlcons" is often used to describe both a format and a style of icon. If this was done to confuse the issue, it was spectacularly successful, so allow us to unravel some of the mystery surrounding icons for you now.

The Newlcons format stores more data than the Amiga OS's original four-colour icon structure by kludging it into an icon's tooltypes. To view these icons you needed to run the Newlcons utility from your user-startup script. Colorlcons, introduced with OS 3.5, also store more colours, but in a more efficient way. This makes Newlcons less useful and you should convert any existing Newlcons to Colorlcons as used with versions 3.5 and 3.9 of the Amiga's operating system. If you run Newlcons from user-startup, you'll notice an error message about newicons.library after installing OS 3.9. This is because 3.9 installs a new newicons.library that passes everything over to the OS 3.9 system functions. This was done to maintain compatibility with older programs that called newicons.library directly. The Newlcons command can be removed from user-startup, as it is no longer needed.

The next step is to convert all your old Newlcons to the Colorlcons format. These load faster because the data is stored in the icon's image structure instead of being encoded into fake tooltypes. There are various programs for converting icons between formats. Some of them offer a GUI (like the icon information window if you run RaWBinfo), whilst others work from the command line, making them ideal for converting a drive full of icons in one hit. Copy CondenseIcon from the OS3.9 CD to your C: directory and type the following in a shell:

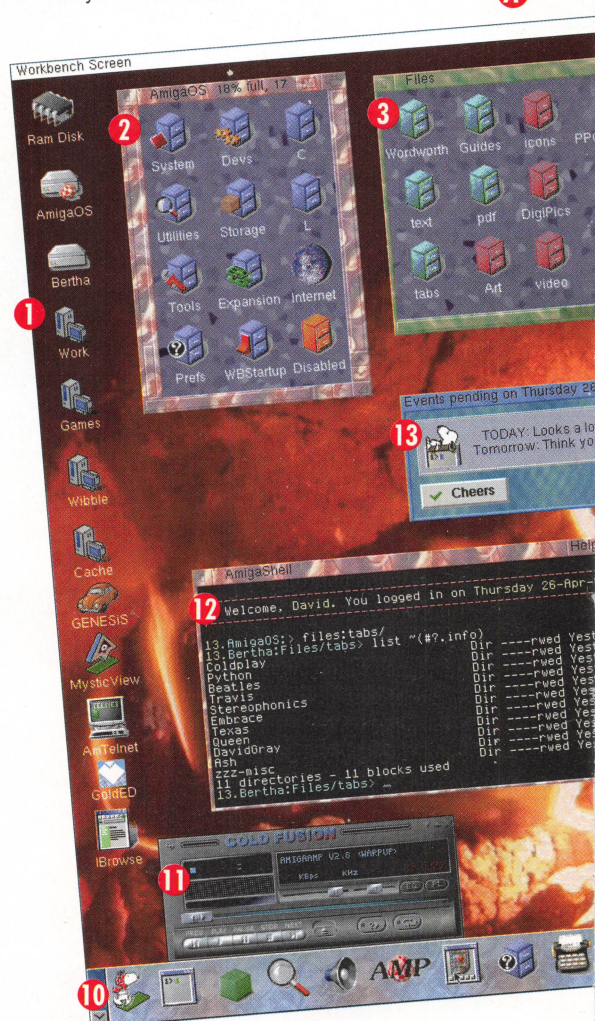
CondenseIcon DH0: ALL ONLYICONS QUIET

Not forgetting to replace 'DH0:' with the name of the drive whose icons you want to convert. This will run through all icons on the disk, converting any Newlcons to the latest Colorlcons format.

Getting there

By now, you should have a deeper understanding of OS3.9. If you're migrating from an earlier version of the operating system, your main programs should be up and running without any problems, and after some customising and experimentation, your Workbench screen should look a lot better than it did when you started. We've still some way to go before we can achieve a sexy setup like the one pictured here, however.

Still to come in what's quickly becoming an epic OS3.9 Masterclass, we'll be showing you how to customise the shell, banish those default requesters and further enhance the look of OS3.9 with additional tools like VisualPrefs and Birdie. Then you'll be wanting to know what you should be installing if you've got a PPC card; what the alternatives to OS3.9's default components like Action, CDPlayer, AmiDock and AMPlifier are; and much more besides, we'll warrant. So, for the time being, do some experimenting of your own, keep your questions about OS3.9 coming in to guru@amigactive.com and we'll see you next month!



Above: Quite a nice looking Workbench... and we've not done everything we can to it yet!

OS3.9 From Pants to Smarty-Pants!

Once you've followed our Masterclass and done some experimenting of your own, you should end up with a Workbench screen which looks as good as - if not better - than this one, which is running on an A1200T with BlizzardPPC (040/25 68k CPU) and BVision graphics card at an 1152x900 24bit screenmode.

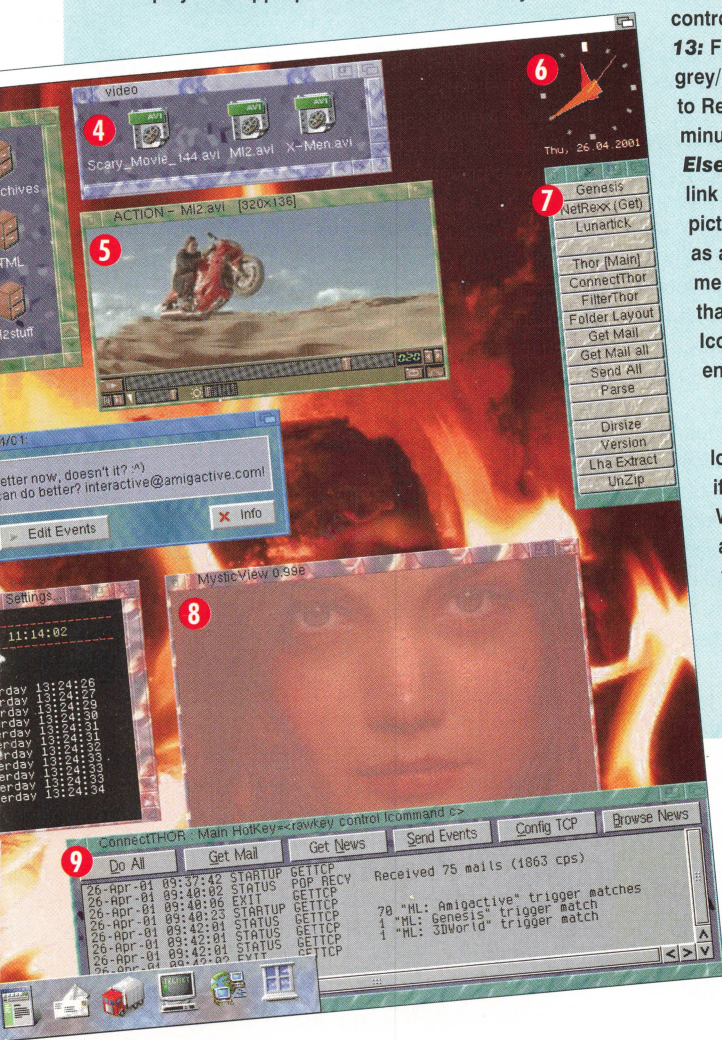
- 1: Device icons are snapshotted down the left hand side of the screen, starting at the top, under the RAM disk. Applcons for Genesis, MysticView, AmTelnet, GoldEd and IBrowse line up below.
- 2: The system partition looking better than ever, thanks to some colourful icons and a suitably dark window backdrop offsetting the white icon text (Helvetica/13).
- 3: A range of colourful drawer icons provides a visual cue to the types of files stored on an 8GB hard drive, using Professional Filing System 3.
- 4: DefIcons recognises three AVI movie files and displays the appropriate icons automatically.

- 5: Tom Cruise's stunt double poses on a motorbike for the MI:2 trailer to be found on the OS3.9 CD - being viewed with OS3.9's Action movie player.
- 6: WBClock does a grand job of displaying the time and date. Ooh, just two weeks to the Editor's birthday!
- 7: NetConnect provides a simple text-button dock for launching some utilities and custom ARExx scripts.
- 8: MysticView provides the compulsory shot of a beautiful female face.
- 9: ConnectThor displays information on some e-mails that have just been downloaded.
- 10: An extended, customised AmiDock provides a graphical toolbar for one-click access to frequently used applications.
- 11: AmigaAmp with its WarpUp decoding engine replaces OS3.9's AMPLifier in this screenshot, although both GUIs are skinnable.
- 12: A reversed-out shell isn't best suited to long hours in the CLI, but it looks the business with ANSI control codes giving the text some colour.
- 13: Finally (for now!), OS3.9's default, plain grey/blue requesters are banished for good thanks to ReqAttack, some additional graphics and a few minutes playing with its prefs program.

Elsewhere: An Olympus digital camera with serial link and CamControl software was used to take a picture of a real log fire and save it on the Amiga as a JPG to use as a backdrop. Window borders, meanwhile, are given a completely new look thanks to the '1:1 Aspect Ratio' option in OS3.9's Icontrol Prefs and Birdie, the window-border enhancer of champions.

We'll go into more detail about achieving a look like this in next month's issue. Meanwhile, if you've crafted a better-looking OS3.9 Workbench than this, we'd love to see it! E-mail a JPG or two, along with a description of what you've used (and where you found those extras), to interactive@amigactive.com. We might even print the best ones...

"...if you've crafted a better looking OS3.9 Workbench than this, we'd love to see it!"

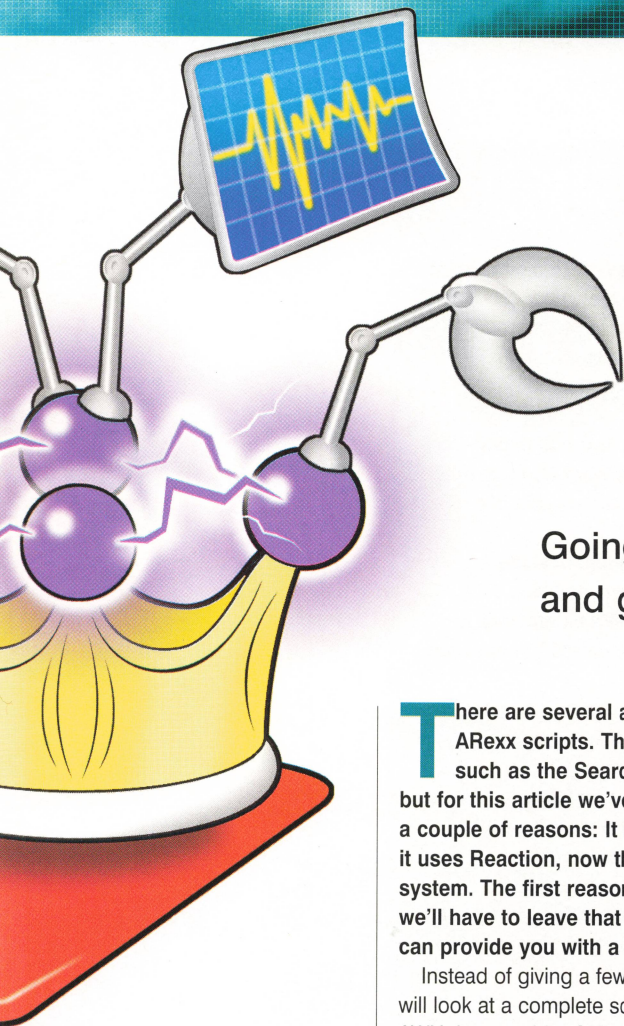


What? Where?

We've talked about a lot of things this month, so chances are you'll want to know where we got it all from. Or, more precisely, where you can find it. Here's what's on our CD this month (AACD21:AACD/Magazine/OS3.9/):

- ViewFonts2: A utility for copying the fonts you like to your system!
- Fonts, pointers, sound samples and backdrops: A hand-picked selection of Aminet's finest.
- MUI: In case you don't already have it!
- SnoopDOS: The very latest version of this essential system tool.

...and we'll have plenty more for you next month!



Building a GUI

Going all GUI, we show you how to add windows and gadgets to your ARexx scripts.

There are several alternatives for adding GUIs to ARexx scripts. The ones on our coverdiscs, such as the SearchCDs utility, use MUIRexx - but for this article we've chosen to use AWNPipe for a couple of reasons: It is still actively supported, and it uses Reaction, now the Amiga's official GUI system. The first reason also applies to RxMUI, but we'll have to leave that topic to another issue so we can provide you with a good look at MUIRexx.

Instead of giving a few example fragments of code, we will look at a complete script that uses ARexx and AWNPipe to add a GUI to functions that are otherwise handled by shell commands. The script uses NetPBM to convert image files between various formats, optionally rotating and scaling them in the process. There are four main stages to the script: initial setup, building the GUI, handling user input and performing the conversion.

```
1 options results
if ~show('L','datatypes.library') then
call addlib('datatypes.library',0,-30)
Formats = 'JPEG PNG GIF ILBM PPM'
Extensions = 'jpg png gif ilbm ppm'
Viewer = 'Multiview'
SrcFile = ''
Format = 0
JPEGquality = 80
Scale = 100
Rotate = 0
call BuildGUI()
```

And so it begins...

Section 1: We check for the datatypes.library and load it if it isn't already available - we will need its functionality later. The rest of this section sets up the list of formats we can convert to and initialises some variables to default values.

Next, we build the GUI. AWNPipe works by opening a special pipe, with "/xc" appended to the name to tell it this is for a GUI. You

then send commands to this pipe. Each command returns a response, indicating its success, and some other information that may be needed later. Since each command sent to the GUI needs a write, a read and a check on the response, we put this in a separate function which can be called from the main body of the script.

```
2 PipeSend:
parse arg data
call writeln(gui, data)
response = readln(gui)
if word(response, 1) = 'ok' then
return subword(response, 2)
say 'Error processing' data': 'response
exit
```

Section 2: The PipeSend function sends the data to the pipe, previously opened as "gui", and reads the response. If the response begins "ok" it returns the rest of the response, otherwise it prints an error message and exits the script. The GUI setup is also in a separate function.

```
3 BuildGUI:
if ~open(gui,'AWNPipe:TestGui/xc','A')
then do
call ShowMsg('Failed to create
window')
exit
end
call PipeSend('title "Image File
Conversion"defaultgadgets vertical app')
```

Section 3: With the BuildGUI function, we check that we were able to open a pipe and send the first command, which is always the command to set up the window. In this case, we set the window's title ("Image File Conversion") and add three options to give the window default system gadgets, make it an AppWindow and set the layout to vertical, where each element appears below the previous one (the default layout is horizontal). Most GUIs have a more complex layout than a single row or column of gadgets, so AWNPipe handles this with the "layout" command. It groups a block of elements as a single layout item, a concept which will be familiar to anyone who has used HTML tables in web pages, for example.

"...a complete script that uses ARexx and AWNPipe to add a GUI."

“...a concept which will be familiar to anyone who has used HTML tables...”

```
4 call PipeSend('layout')
  call PipeSend('layout vertical')
  call PipeSend('label gadgettext "Input
  file "')
  call PipeSend('label gadgettext "Output
  format "')
  call PipeSend('label gt "JPEG quality
  "')
  call PipeSend('label gt "Scale % "')
  call PipeSend('label gt "Scale size
  "')
  call PipeSend('label gt "Rotate "')
  call PipeSend('le')
```

```
5 call PipeSend('layout vertical')
  FileGad = PipeSend('getfile')
  FormatGad = PipeSend('chooser popup cl
  "translate(Formats, '|', ' ')')
  JPEGGad = PipeSend('string lj
  gadgettext "JPEGquality" minchars
  3')
  ScaleGad = PipeSend('string lj
  gadgettext "Scale" minchars 3')
```

```
6 call PipeSend('layout')
  ScaleXGad = PipeSend('string l
  gadgettext "" minchars 3')
  call PipeSend('label gt " x "')
  ScaleYGad = PipeSend('string lj
  gadgettext "" minchars 3')
  call PipeSend('le')
```

```
7 RotateGad = PipeSend('string lj
  gadgettext "Rotate" minchars 3')
  call PipeSend('le')
  call PipeSend('le')
```

```
8 call PipeSend('layout')
  ViewGad = PipeSend('button gadgettext
  "View")
  ConvGad = PipeSend('button gadgettext
  "Convert")
  call PipeSend('le')
```

```
9 call PipeSend('open')
  return
```

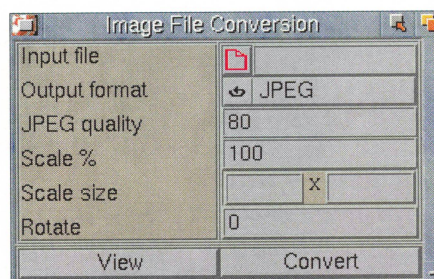
Section 4: We open two nested layouts here, the first is horizontally aligned and contains two columns of gadgets. The first column contains labels. We “call” PipeSend here because we aren’t interested in any value it returns. “le”, short for “LayoutEnd” closes each layout element. Most attributes have shorthand versions: “gt” and “gadgettext” mean the same thing.

Section 5: Now we create some gadgets. When you create a gadget, AWNpipe assigns it an ID and returns that number after the “ok” response. We store the ID in a variable for use later. The first gadget is a file requester, the second a cycle gadget. ‘Quality’ and ‘Scale’ are string gadgets, set to the default values from the start of the script.

Section 6: Here is yet another nested layout, because we want to include two gadgets and some text in the same space as the single gadgets in the same column.

Section 7: One more gadget and we can close of this layout and the one enclosing it.

Section 8: Finally, we add two buttons. The first is to view the source file, the other starts the conversion process. Then we tell AWNpipe to open the window we have just created and return from the function in [section 9](#).



Left: And this is the GUI you end up with!

Waiting for the user

Now AWNpipe waits for the user to click on a gadget or perform some other action. We only need to read from the pipe now, which closes when the user clicks the close gadget. This means we can read everything with a simple “do until eof()” loop and quit when the loop exits.

Section 10: The event string sent by the GUI consists of the gadget type, such as ‘app’, ‘gadget’ or ‘menu’, the object’s ID and any data associated with the event. There are only three possible events with our GUI: one of the gadgets could be clicked on or typed in, a file could be dropped on the window or the user could click the close gadget. We ignore the close event as it doesn’t require any action (if we wanted to save something before quitting, we could check for close in the ‘select’ statement). When a file is dropped on the window, we only need to set the SrcFile variable to the full path of the file. A gadget event requires further work, so we call a function to deal with it.

```
10 do until eof(gui)
  Event = readln(gui)
  type = word(Event, 1)
  select
    when Type = 'app' then SrcFile =
      subword(Event, 2)
    when Type = 'gadget' then call
      DoGadget()
    otherwise nop
  end
end
call close(gui)
exit
```


“There are only three possible events with our GUI...”

```

11 DoGadget:
    ID = word(Event, 2)
    select
        when ID = FileGad then SrcFile =
            strip(subword(Event, 4), 'B', '"')

12 when ID = FormatGad then Format =
    word(Event, 3)
    when ID = JPEGGad then JPEGQuality =
    word(Event, 3)
    when ID = ScaleGad then Scale =
    word(Event, 3)
    when ID = ScaleXGad then ScaleX =
    word(Event, 3)
    when ID = ScaleYGad then ScaleY =
    word(Event, 3)
    when ID = RotateGad then Rotate =
    word(Event, 3)

13 when ID = ViewGad then call
    ViewFile(SrcFile)
    when ID = ConvGad then call Convert()
    otherwise nop
    end
    return
    
```

Section 11: The file gadget supplies the path to the selected file contained in quotes, whereas a file dropped on the window has no quotes. We strip the quotes here to keep things consistent. The file's path is the fourth, and last, item in the event string. It may contain spaces so we use subword to get everything from here to the end of the string.

Section 12: The string and cycle gadgets return a string of the form “gadget ID data”. All we are doing now is to test which gadget was pressed or changed and store its value in a variable for use later.

Section 13: The buttons return their information in the same form, except the data item is always 0, because a button contains no data. The buttons each call a function to do what the user requested.

```

14 ViewFile:
    parse arg Image
    if CheckImage(Image) then address
    command Viewer Image
    return
    
```

Section 14: The ViewFile function passes the file to the image viewer set at the start of the script. Before doing that, it calls CheckImage() to ensure that the user has actually given the path to a valid image. This function is also used to check

the file before converting it.

Section 15: Rule one of programming: “Always expect the user to get it wrong”. First we check that he has actually selected a file to view or convert. Then we make sure it's an image using datatypes.library.

Section 16: The ExamineDT() function uses the Amiga's datatypes system to determine a file's type. If it doesn't match the list of formats we can handle, it shows an error message and returns 0 (false), otherwise it

“Rule one of programming: ‘Always expect the user to get it wrong’”

returns 1 (true). Some datatypes will return the type of a JPEG as “JFIF” or even a specific type, such as “JFIF-EXIF2” for some digital camera images. The line after ExamineDT() checks for any filetype starting with “JFIF” and changes it to “JPEG” before checking for a match. The datatypes.library ARexx port was added for OS 3.5, so the first two lines of this section check the OS version. If it's lower than 44 (OS 3.5) the function returns true: in other words, we go back on rule one of programming, and trust the user to have got things right.

```

15 CheckImage:
    parse arg Image
    if Image = '' then do
        call ShowMsg('You must supply an image
        file')
        return 0
    end

16 address command 'version version 44
>NIL:'
    if RC > 0 then return 1
    Filetype = upper(ExamineDT(Image,,VAR))
    if abbrev(Filetype, 'JFIF') then
        Filetype = 'JPEG'
    if pos(Filetype, Formats) = 0 then do
        call ShowMsg(Image 'is not a
        recognised image format')
        return 0
    end
    return 1
    
```

Down to business

Having selected a file and conversion options, the user presses “Convert” and ends up at the Convert procedure.

Section 17: As before, we check the file is valid. Then we remove any file extension from the path and add an appropriate extension for the type of file we are saving. The test for a file extension checks that there is a “.” later in the path than any “/”. It's not 100 percent reliable, it would fall over on a file like “My.Disk:Picture” - so don't use it if you tend to name files like this.

```

17 Convert:
    if ~CheckImage(SrcFile) then return
    OutputFormat = word(Formats, Format + 1)
    if lastpos('.', SrcFile) > lastpos('/',
    SrcFile) then DestFile = left(SrcFile,
    lastpos('.', SrcFile) - 1)'.word
    (Extensions, Format + 1)
    else DestFile = SrcFile'.word(Extensions
    , Format + 1)
    
```


A conversion using NetPBM uses a minimum of two steps, conversion from source to a ppm file and from there to the destination format. Applying scaling or rotation adds further stages. We could save the result of each stage to a temporary file and then pass that to the next stage. This, however, is slow: not the way NetPBM was intended to be used. NetPBM should be used with a pipe, passing the output from one program directly to the next. AWNpipe is so named because it is a pipe. The GUI we have created is a special form of pipe, but it does normal piping too. We use a variable to track the number of steps to perform, and a stem variable to contain those steps of the conversion.

Section 18: The first stage selects the command to convert to PPM, depending on the current format.

“NetPBM should be used with a pipe, passing the output from one program directly to the next.”

```
18 Count = 1
select
  when Filetype = 'JPEG' then Cmd.Count
    = 'djpeg' SrcFile
  when Filetype = 'PNG' then Cmd.Count
    = 'pngtopnm' SrcFile
  when Filetype = 'GIF' then Cmd.Count
    = 'giftopnm' SrcFile
  when Filetype = 'ILBM' then Cmd.Count
    = 'ilbmtoppm' SrcFile
  when Filetype = 'PPM' then Cmd.Count
    = 'type' SrcFile
  otherwise return
end
Count = Count + 1
```

There's no output file given because this goes straight to the pipe.

Section 19: If the Scale gadget is set to anything but 100 percent, we apply this as a scale factor. Otherwise, if the X and Y scale sizes are given, we scale the image to fit a box of that size. If neither is given, this step is skipped. We have to check the Scale variables twice: If the user didn't enter a value, these variables won't be set, but if he enters and then deletes a value, the variable will be set, but empty.

Section 20: Similarly, we add a command to rotate the image if Rotate is set to anything but zero. Neither the scale nor the rotate commands have input or output files. They are used in the middle of the pipe, taking input from the previous command and sending output to the next command.

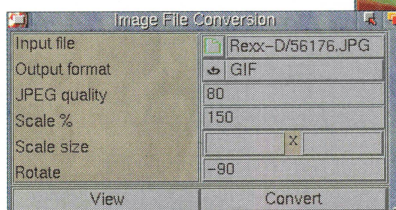
```
19 if Scale ~= 100 then do
  Cmd.Count = 'pnmscale' Scale / 100
  Count = Count + 1
end
else if (symbol('ScaleX') = 'VAR' &
  symbol('ScaleY') = 'VAR') then do
  if (ScaleX > 0 & ScaleY > 0) then do
    Cmd.Count = 'pnmscale -xy' ScaleX
    ScaleY
    Count = Count + 1
  end
end
```

```
20 if Rotate ~= 0 then do
  Cmd.Count = 'pnmrotate' Rotate
  Count = Count + 1
end
```

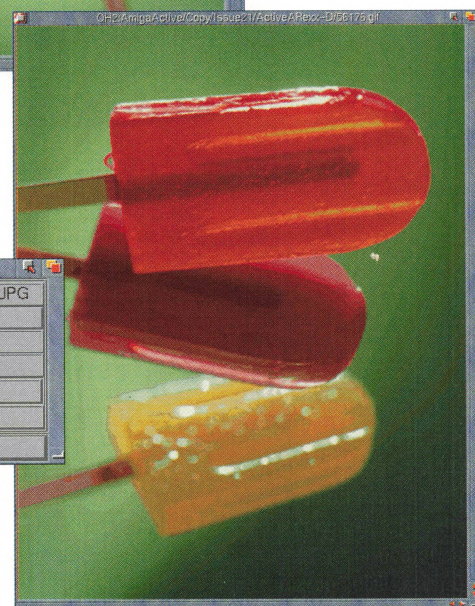
Section 21: Here we set the command to convert the user's chosen file to the specified format. If this is GIF, we have to perform an additional step to reduce the number of colours to 256. NetPBM's 'ppmtogif' command will fail if the image it receives contains too many colours. If the source or destination filetype is PPM, no conversion is required at that stage, so we use 'type' to send the data unchanged to the next stage.



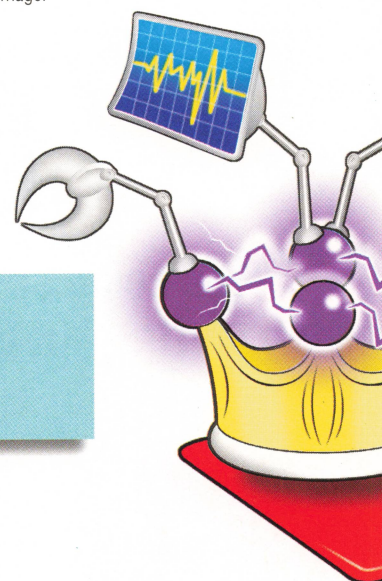
Left: Our original image, the right way up.



Above: Our GUI, with options filled in.



Above: And the resulting, rotated and scaled, image.




```

21 select
    when OutputFormat = 'JPEG' then
        Cmd.Count = 'cjpeg -quality'
        JPEGquality
    when OutputFormat = 'PNG' then
        Cmd.Count = 'pngtopng'
    when OutputFormat = 'ILBM' then
        Cmd.Count = 'ppmtolbm -24if'
    when OutputFormat = 'PPM' then
        Cmd.Count = 'type'
    when OutputFormat = 'GIF' then do
        Cmd.Count = 'ppmquant 256'
        Count = Count + 1
        Cmd.Count = 'ppmtogif'
    end
otherwise return
end

```

► **Section 22:** Having set up the commands, we now run them. The first command is run, sending output to the first pipe...

```

22 address command
    Cmd.1 '>AWNPIPE:Convert1'

```

Section 23: ...then we run the intermediate commands, reading from the previous pipe. Finally, we run the last command, sending output to the filename set earlier, and return to the main loop to await further input.

Section 24: By using stem variables, the script doesn't need to know how many stages are involved in the conversion process. You could easily add more gadgets to the GUI to perform other functions, such as colour reduction or altering the brightness of an image.

```

23 do i = 2 to Count -1
    Cmd.i 'AWNPIPE:Convert'i-1'
    >AWNPIPE:Convert'i
end

```

“Consider this a starting point, rather than a finished program.”

```

24 Cmd.Count 'AWNPIPE:Convert'Count-1
    '>DestFile'
    return

```

So there you have it: an easy to use GUI for a fairly complex set of shell commands. Consider this a starting point, rather than a finished program. You can add or alter any commands to suit your needs, so try adding to this script and see what you can come up with.

We'd be interested to see any improvements you can make, so send them in to us and we might even put them on a future coverdisc for everyone else to appreciate. Don't forget to comment your source code!

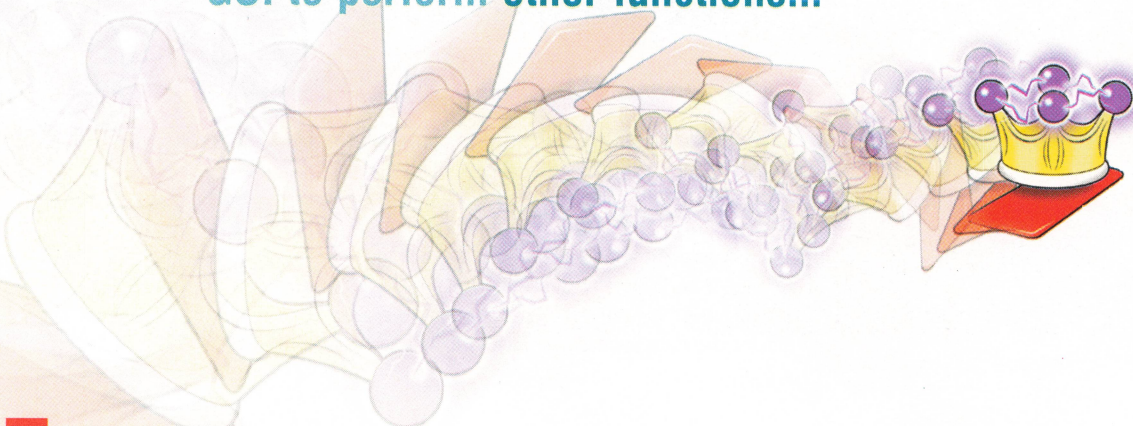
Neil Bothwick **A**

What is a pipe?

A pipe is a data conduit, it carries data in much the same way that a water pipe carries water. You feed data into one end and it pops out the other. It is used to connect two programs, the output of program A becomes the input to program B.

If you have installed the Internet software from OS 3.5+ you already have AWNpipe. Otherwise run the Installer from the Magazine/ActiveAREXX/AWNPIPE drawer on the CD to install and activate AWNpipe.

“You could easily add more gadgets to the GUI to perform other functions...”

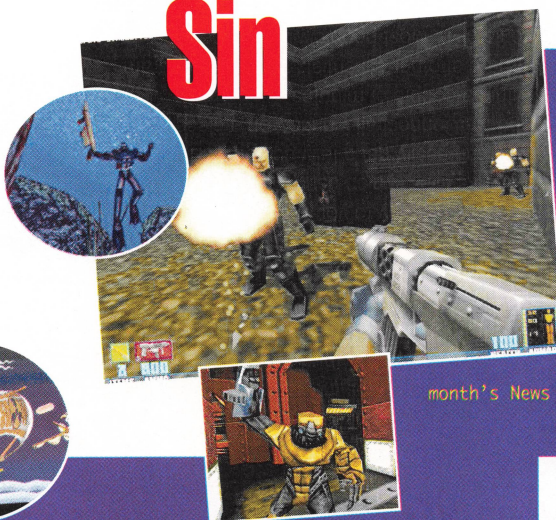


Coming Attractions

Feast your eyes on the titles to come in the rest of the year 2001.
No, it's not Poetry Corner, it's Active Gamer...

They may mostly be conversions, but when you consider the outlay in producing an original game these days, our advice is to thank your lucky stars there are still some titles due to visit the Amiga over the coming months. For this month's Active Gamer, we thought we'd take a check on the runners and riders to see where they've got to.

Sin



Developer: Hyperion

ETA: Alongside AmigaOne

Last Transmission: Powerful hardware (read: G3/G4 machines) will be required to get the most from this game, so Hyperion are wisely holding back its release to coincide with the AmigaOne. See this month's News section for more details.

Worms Armageddon



Developer: Hyperion

ETA: Unknown

Last Transmission: Little has come to light regarding the port of Team17's PC-only sequel to Worms and Worms: Director's Cut which graced the Amiga back in the 90s. The project hasn't been shelved altogether, but has had to be put on standby, as Hyperion prioritise other titles.

Updates



As well as working on new titles, Hyperion's team are beavering away with work that should provide a marked increase in performance for their existing releases, Heretic II and Shogo.

The Warp3D driver for Voodoo3 graphics cards, being developed by the Frieden Brothers, is about 95 percent complete, with just a couple of critical parts yet to be implemented.

The screenshots of both games here (above) were taken on a Voodoo3. Hans-Joerg Frieden happily informs us that Heretic II in particular has benefited from the increased power offered by Voodoo3 hardware over Permedia2, thanks to, "coloured light-mapping that cannot be supported on the Permedia2 due to missing blend modes."

Freespace



Developer: Hyperion

ETA: August 2001

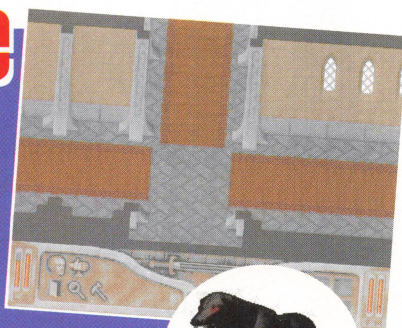
Last Transmission: Originally called Descent: Freespace, since original developers Parallax split up into Volition and Outrage it has been renamed Freespace: The Great War, and - now - simply Freespace. Currently due to be released for the Amiga and AmigaOne platforms. The graphics and special effects are currently being optimised to take advantage of the Voodoo3, as this is Hyperion's first title for the new hardware.

Dafel: Bloodline

Developer: Pagan Games

ETA: Q4 2001

Last Transmission: The Amiga Engine is 90 percent complete (the game will be released for both Amiga and Macintosh platforms), whilst a custom scripting language has been developed to allow the easy addition of new levels at a later date. With the design phase now completed, Pagan are now focusing on graphical development.

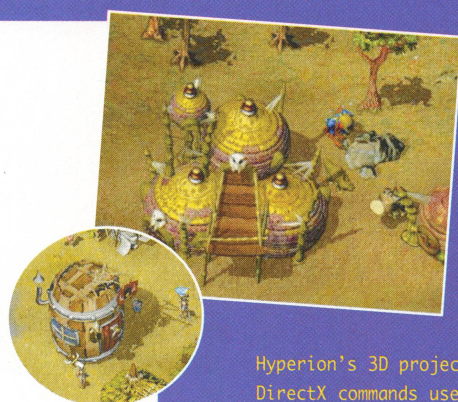


Alien Nations

Developer: Hyperion

ETA: Unknown

Last Transmission: God game in the mould of Amiga classics such as Populous II and The Settlers. Hyperion announced they were handling the Amiga version after Titan signed the deal to publish this game just over a year ago. Being a 'mere' 2D game (unlike the majority of Hyperion's 3D projects), development for the Amiga has required the porting of a lot of DirectX commands used in the PC version, which has naturally added to the initially expected development time. Will be followed by a Missions Pack.



Missing In Action

You read about them what seems like eons ago - or maybe just recently - but nothing has surfaced since. That's games for you.



Soldier of Fortune

GAME

FROM

STATUS

Gorky17	Titan	In progress
Echelon: The Storm	Titan	Early days yet!
Rage Hard	Titan	Ditto
Majesty	Hyperion/Titan	In progress
Soldier of Fortune	Hyperion/Titan	In progress
Homeland	Blittersoft	Deader than tanktops
FUBAR	Blittersoft	Shelved indefinitely
Scavengers	Pagan	Put to sleep last year
Magick	Pagan	In progress
E2260	World Foundry	Unknown
Maim&Mangle	World Foundry	Unknown
Wasted Dreams 2	Digital Dreams	Unknown
Deadlock	Digital Images	Unknown
Tales of Tamar	Eternity	In progress

Developer: Hyperion

ETA: Unknown

Last Transmission: An enhanced Quake 2 engine, more complex models and enhanced Artificial Intelligence mean that Hyperion's other 3D titles, such as Soldier of Fortune, are taking longer than expected to materialise, and may only appear on the AmigaOne.



LAND OF GENESIS



FIRE PHOTON TORPEDOS!

The shoot-'em-up genre returns to the Amiga, again.

Sometimes you don't want to wander around dank musty places for hours in suspect leather boots with an odd little fellow with a beard looking at your sword appreciatively out of the corner of his eye, using magic creams and health potions, increasing your stamina points the better you perform. You're not always in the mood to see another cryptic clue from the mind of some weirdo who knows it sends you mental trying to figure out how to open that gate and get by the dog with some KY-Jelly, a pair of tweezers and an active imagination.

"...looking like refugees from a Sega Mega-Drive or Amiga 500."

No, sometimes you just want to kill the bastards. Maim, bludgeon, destroy... and all in about half an hour before the umpteenth repeat of Red Dwarf comes on TV. Enter Land of Genesis, from the same ass-kicking school of classic Amiga games Turrican, Gods and Rick Dangerous. Whack in the CD, install, and prepare to fight for your life.

After a reasonably nice video intro, you are greeted with a classy options screen, where you can load an old game or start a new one, set the level of difficulty, switch music on or off, and chose the number of lives (up to 5) you'd like. Controls are

what you'd expect, with the joystick and fire button doing most of your work. The spacebar fires your special weapon, left/right cursor arrows toggle through weapons you have collected, and 'Return' activates a tool (such as a key). All the documentation comes on the CD in English, German and Italian. It's good to see that Maurizio has taken care to supply manuals for multiple languages.

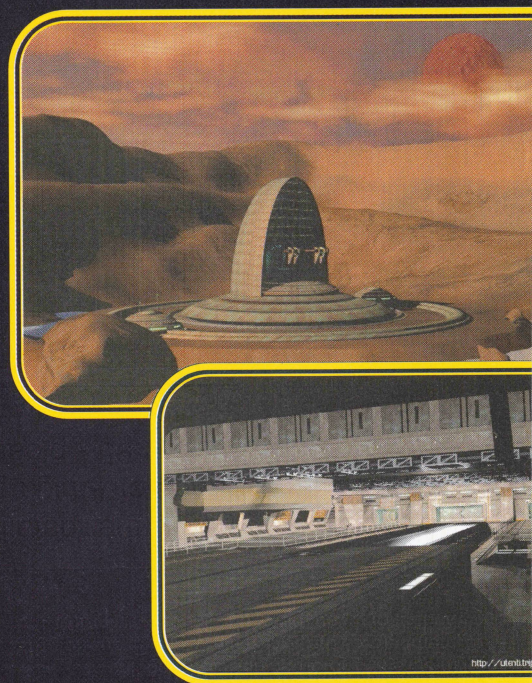
D&D destruction

The screen is comprised of the main action, and a section along the bottom which shows your health, enemy health, your speed, weapon power, weapon selected, your ability and money collected.

The graphics (and slightly jerky animation) of the game itself are

a bit old school, looking like refugees from a Sega Mega-Drive or Amiga 500. Which is no bad thing, it has to be said. Merely functional - neither outstanding nor terrible (except for the human enemies, which aren't that good really). The different levels have different feels, and you go from inside to being out in the wild.

The incidental graphics, such as the options and high score screens, are actually very good. It's easy to spot Maurizio's demo-scene background and talent with polished screens and transitions such as these. The difference between the incidentals and the game proper is reinforced when faced with the slightly jerky in-game animation after being treated to the smooth demo-like transitions of the cut scenes.



Aurally, there's nothing really to be said, apart from the fact that the music (from CD) is functional and doesn't interfere with your concentration in a positive or negative way. In fact, that's probably the best type of in-game music... non-interfering. The sound effects for the game, on the other hand, could have been better, with weapons sounding like loud farts and deaths like B&D sessions (not that I'd know about that, of course).

Boing-ball busting

Armaments start with your basic shooter, and progress to more powerful incarnations of the same; it's much like the weapon power-ups in T-Zero (see AA01) where you start with a horizontally firing weapon which gets boosted with the ability to fire diagonally.

Initially you're greeted with ceiling missile-bots which, until you get that essential first weapon upgrade, can only be destroyed by judicious jumping up and down and timing your fire - a bit of a pain, not to mention

dangerous. This is alleviated slightly by goodie-boxes, hopefully rewarding you with the diagonally shooting weapon. I say hopefully, because I only managed to collect this weapon a few times when exploding the boxes, all the other times it wasn't there. I don't know whether this is a bug, or if the placement of weapons is random. I suspect the latter, as the weapon it did give me all these other times was exactly the same as the one I had. Useful (not). In fact, while I'm on the subject, having to blast open a box just to get some goodies is a tad unnecessary. They should just be there, smiling at you like a damsel in the night, rewarding you for just managing to reach a certain point in a level. Other weapons available include (should you find them) missile launcher, mini-gun, laser, and flame-thrower.

From the moment you realise that you have to be a kangaroo to destroy the missile bots, your frustration begins to build. You should at least have the better

diagonally firing weapon at the start, if there are diagonally challenging enemies. But hey, that's just one little thing, and one of the many enemies, so let's not dwell on this too much.

Kill said enemies, which also include walking mushroom-bots, sliding ceiling bots, humans and the dude from ZX Spectrum classic Jet-Pac (remember that?). Any enemy you destroy will reward you with a few gold coins to collect, which you can then use to buy extra weapons at the shop that appears between levels.

Did I mention the in-game options: the difficulty level and amount of lives? Well, you'll be heading back there after being killed for the umpteenth time, frantically choosing Easy and 5 Lives. Even then you'll be hard pressed to find the key and open the first door. Apparently there are health kits that you can find along the way, but if I did come across any unwittingly then it can't have made a huge difference as I still died too frequently. This is where a proper printed manual comes in

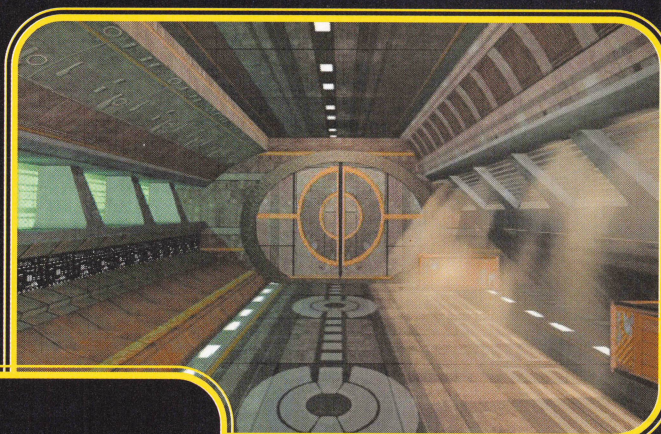
"...smiling at you like a damsel in the night..."

handy - to include a picture of certain important game elements. If I had collected any health in the boxes you have to blow up, then they can't be very well designed as to be immediately recognisable.

This game is not for the faint-hearted or easily dissuaded. Land of Genesis sorts out the men from the psychos. The problem is, it doesn't sort you out because it's addictive or highly challenging in a must-have-one-more-go sense. It sorts you out like a mugging in an alley: totally unfairly.

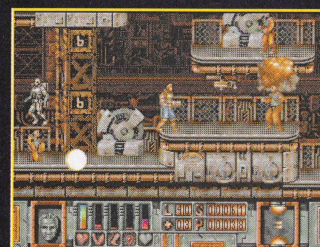
You'll need to take a trampoline with you to jump up and time your shots to blow up some more of the ceiling and missile bots (whose missiles you can shoot if you're quick and lucky enough). Enemies are plentiful and there isn't much respite, save for the

"Land of Genesis sorts out the men from the psychos."



GOD

Maurizio Gemelli is the programmer of this game. Actually, he's more of the Bill Gates or Rupert Murdoch of Land of Genesis, as he's not only responsible for the programming, but the design and graphics too. Which leaves the task of making some of the music and whipping up a quick cup of tea (or cappuccino, seeing as he's Italian) for his friends. This is Maurizio's first foray into the world of commercial gaming, as his background is in the demo scene as a coder and artist by the tag of Kublay.



TRIAL BY FIRE

As an Amiga games fan, I respect any programmer who has the dedication to try and realise his vision. It takes a lot of hard work to write a game like this, even with its faults. It's a real shame that a combination of minor faults can stop a very competent game from getting a good review.

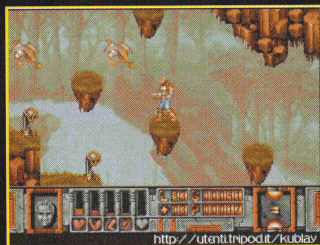
I urge anyone interested in this type of game to see if you agree with me, by installing the available demo and playing it to death. I believe I'm an experienced gamer, especially of the shoot-em-up genre, but I'd like to know what other people think of this game, and discuss it on the *Amiga Active* mailing list, where you can find me to agree or disagree with.

Maurizio did tell us that if people thought it was too hard, he would release a patch to make it easier, so don't be shy - have your say.

odd dead-end (why even include them?) on your way to try and collect the weapons you need to have even the slightest chance of survival, and the key needed to get past the door blocking your way to the next section.

It doesn't make it any easier when the missile-bots can sometimes fire missiles through floors and ceilings at you, which of course you have no chance of avoiding or shooting. It's impossible to overcome elements like this, which makes you even more frustrated.

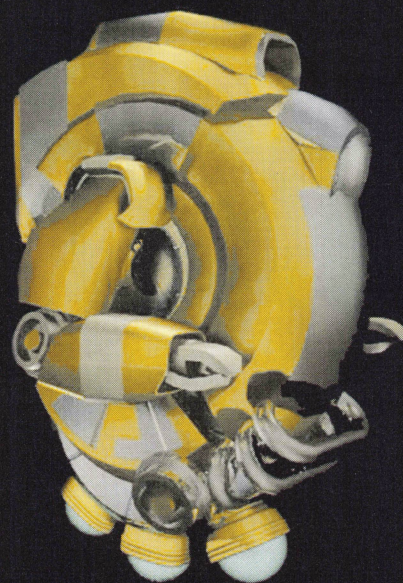
When fighting the ground-based enemies, you'd think crouching to fire would be an advantage to dodge some of their bullets. No such luck, as it just means they get to pop you in the head instead. Level design (at least for the one level I saw) swings between serviceable and



PLOTS (OR NOT)

With many games of this genre, the impetus to play revolves around some good vs. evil struggle, and/or an emotional subtext to spur you on... save a woman, save yourself, rescue your friends, get revenge, etcetera. Any game (or movie) involving a weapon provides some basic plot to justify the need to blow things (and people) sky-high. Yet even I was surprised to see how basic the pretext for violence was in *Land of Genesis*. It goes something like this:

In the future, genetic experiments have been carried out on a Mars base. Clones and mutants have taken umbrage to this (as if they wouldn't) and revolted, taking over the base. Enter Jan (you), a special operative who has to wipe out the scum. Simple, innit? Even "Smash TV" had a more compelling reason to fight, but hey, who cares. It's a shoot-em-up!

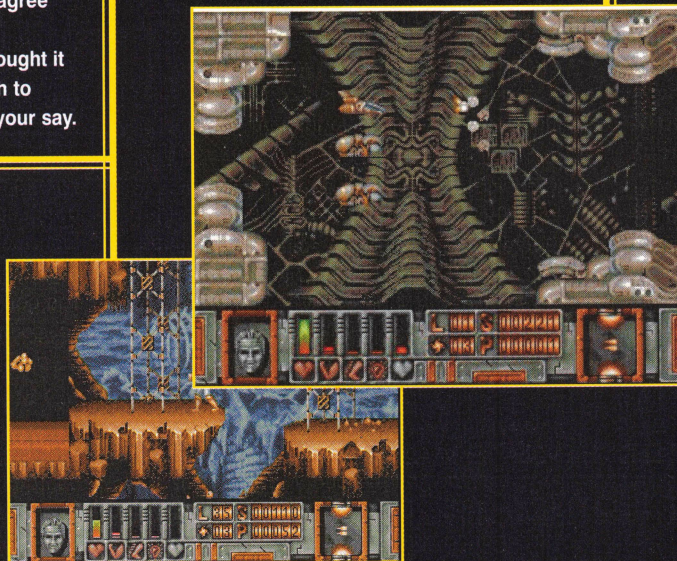


"This, may I remind you, is the first level."

lamp in your face than a promising first exploration of possibilities. If you're into self-flagellation then maybe this game is perfect for you.

Myself, I like a good challenge. I love a good shoot-em-up to get into quickly for some mind-numbing violence (as I don't get to see Aussie-Rules Football in the UK). Unfortunately, I think Maurizio and his play-testers haven't recognised the difficulty or picked up on some basic design flaws, which make this game a frustrating, rather than an enjoyable, experience.

Gary Storm **A**



annoying, with too many enemies in too many places, so you have no chance at all of being able to kill them all before you've lost at least a couple of your own lives.

Are you tough enough?

I asked Maurizio about the game's difficulty, and he informed us that on 'Easy' the enemies have an attack value of two per hit, and the player has an energy value of 24 hits. So that gives you the opportunity to be hit a dozen times before you die - which you will (and often), as 12 hits is ridiculously easy to achieve. If it weren't for the missile-bots being so frequent, or the lack of health, or the frankly crap weapon you start with, or the crouching being useless, not to mention a few

other oddities, this game would be quite enjoyable, and well worth buying. As it is though, it's an exercise in frustration. Maurizio said that he had six play testers, who didn't report any problems with the difficulty. From the game I played, this makes me think they either stood still at the start all day, or were steroid-guzzling shoot-'em-up Gods. We'll let you decide.

This, may I remind you, is the first level. Traditionally designed to be a gentle introduction into a game, like the first kiss on an early date, a promise of things to come. Not in *Land of Genesis*. Oh no, you just get in there at the deep end pal and we'll see if you can cope. More like being strapped in a chair with a bright

Land of Genesis

SYSTEM: 68020 (basic) or 68040 (extended), 11MB hard-drive space, CD-ROM, AGA.

SUMMARY: A very promising title ruined by its difficulty curve and some unfortunate design flaws.



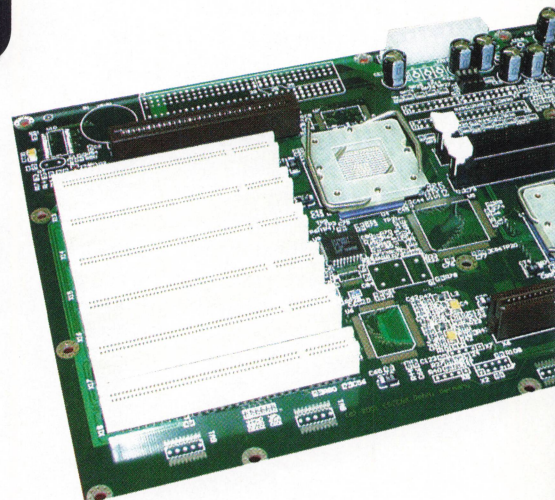
LETTERS TO THE EDITOR



Your chance to pester the Editor! Write to: Amiga Active Magazine, 14 Victoria Road, Bournemouth BH1 4RR. Or, i

InterActive

Thoughts on St. Louis, the G-Rex, drivers for PCI cards and the comeback of the CD32? It can only be another AA postbag!



All the right moves

I just wanted to put my thoughts in an e-mail; I think Amiga are making the right move! The reason being it's hard enough to please everybody and making the decision to not only release a machine (via third party companies) that can run stand-alone, but also link this to classic Amiga hardware is amazing.

They could have abandoned the classic Amiga and done what Apple did with the iMac, but instead, the transition to PPC and also OS5.0 will be done gradually giving everyone time to develop new hardware and software, yet keeping compatibility with existing programs.

I know this will be a big challenge and I do feel there is enough room for the Amiga to get back into the

PC market, the only thing I can say to Amiga is ADVERTISE. They need to tell everybody!

I own various Amigas and hopefully the AmigaOne will be made for my trusty A3000T, so Eyetech if you're reading this: please make one!!

Thanks again for another great issue.

Kind Regards,

Erol Ismael

The decision to develop from what they had certainly is going to make the transition a whole lot smoother. Amiga will be bringing the new stuff which they're developing with Too Group on top of what we already have rather than entirely replacing it. The intriguing thing will be seeing how much the Digital Environment will be able to bring to

our Amiga personal computers due to its ability to run on many other devices.

Could that be the edge the Amiga needs to re-establish itself as a contender in the desktop market?



Won't get fooled again

I write to an Amiga magazine for the first (and probably last) time in my life because I want to explain why I will not renew my subscription after one year of buying the mag. Some people stop buying a magazine because they think the magazine isn't any good, because they're not interested in the subject anymore.... For me though, it's none of that.

"They could have abandoned the classic Amiga and done what Apple did with the iMac..."

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Several things we thought we'd mention, in the hope they'll turn up.

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From the Nth Dimension to a pub in Islington. Whatever happened to...

you enjoy the pleasures of being online, send your e-mails to us at interactive@amigactive.com

Damn it, I would love to continue buying your fab magazine because it is quality from cover to cover. Well written, a top quality magazine like we were used to from CU Amiga and Amiga Format.

So why have I decided to stop buying the mag? Because I'm fed up reading about the past or the future. I want to read about the present. The Amiga is in such a bad state at the moment. As readers of your mag, we have probably seen more articles about future machines, ideas, etc. than any other general technology magazine (like the RealityStation in issue 20).

"We have been disappointed so many times."

We have read about the plans of Amiga so many times and they seem to change every 6 months. We have seen sketches, designs, and screenshots, all you can imagine... but never have we seen something for real. We have been disappointed so many times.

If ever there is a real AmigaOne with OS4.0, I will be the first getting a subscription to your fab mag again. But I don't believe any more.

Some people may argue that we should buy magazines to support the Amiga, especially in those bad times. Well, that's exactly what I have been doing the last seven years of my life. Only problem is, those bad times don't end.

Regards,

Derdeyn, Belgium

We're sorry to lose you. We know it would be pointless saying "hang on in there! Only a few more months to go!" as you've been doing exactly that for seven years already.

Of course it's hugely frustrating that we've had all these promises and never seen anything emerge - but for the first time ever we're actually beginning to see results, and the first new Amiga hardware really is only a few months away. You may not be long without an Amiga magazine after all!

Brave New World?

As an elder generation Amiga user, I'd like to offer my own perspectives on the St. Louis announcements. I'm neither a techno-freak nor a PC-hater. I'm just an ordinary self-educated Amigan. I can't program, I don't find ARExx a doddle and (I suspect like the vast majority), I'm still learning about the Amiga's secrets. I joined in the fray via the C64, A500 and A1200, spending considerable sums of money, getting considerable enjoyment and of course growing ever older, just like my beloved machine.

Initially I wondered why the likes of Escom, Viscorp, Gateway and now Bill McEwen and Fleecy Moss would spend considerable sums of money for ownership of a platform with such a miniscule following as the Amiga. But the reason is obvious to all Amigans isn't it? The fraternity always knew that Amiga has something the whole computer-using world ought to have, if only it realised.

"...Amiga has something the whole computer-using world ought to have, if only it realised."

Throughout that decade of anticipation Amiga's owners repeatedly treated the computer like some second cousin twice removed. Something to be paraded in silly clothes and given a silly name, like BoXeR, just to keep us Amigans on the hook. Then Gateway eventually told us; 'The Amiga is no longer about computing'.

It was then that I realised the writing was on the wall and we would never have our dream machine. This was not about Gateway, or any other owner, it was the logical reality. The Amiga fraternity would simply provide support and momentum for the



Left:
Is this an Amiga?

evolution of the Amiga into something else. It might get Pac Man from the ether or become a stereophonic PDA, but it would not be an Amiga as I know it; as I need it.

By all means, let's buy OS4 and 5 and whatever comes along afterwards. In a couple of years we'll probably believe we're back in the race (appropriate software permitting). But GHz beats PPC any day of the week. Let's not be too hurt when our mates with their PCs can still hack it faster, smarter and considerably cheaper. Me? I'll still be here with you my friends!

Jack Thewlis

You have nicely voiced a fear that many share - I'm sorry I had to cut out so much of your letter. The world changes, and it is necessary for any company to change with it. Back in the days of Commodore, the market was driving personal computing away from diversification, and only Apple survived as a rival to WIntel - and even then, only by the merest whisker. Now another change is taking place wherein computing becomes less specialised - a return to diversity.

Whatever Amiga do, no mobile phone is ever going to offer the Amiga experience we're all used to. Amigas may never dominate the desktop, but they will provide a wide range of capabilities that alternative desktop solutions won't provide. It's worth remembering that Amiga Inc. have hired lots of people from the Amiga fraternity, so it's fair to assume that they do understand what we actually want.



Number theory

I think your review of the G-Rex missed one vital point. As the G-Rex allows DMA [Direct Memory Access] to/from the BPPC (whereas the Mediator can't handle DMA with existing accelerators), certain tests (e.g. the Ethernet transfer) should show a marked reduction in CPU load. Your review made no mention of CPU load.

Also, your article stated that the PCI bus was clocked at 25-33MHz (depending on bus clock of the BlizzardPPC). I thought that with a 50MHz '060 on my BlizzardPPC board, my bus speed was 50MHz. Assuming a 50MHz CPU gives a 25MHz bus speed, where does a 33MHz bus speed come from when the fastest BlizzardPPC officially made only ran at 50MHz?

Kulwant Bhogal

There was a boxout about DMA issues, but as far as we can tell Bluey took a dislike to it and buried it somewhere - sorry!

Seriously though, it's a complex issue, and there's been a lot of claim and counterclaim from both sides. There's also an issue of fair comparison - the G-Rex won't work without a PPC card while the Mediator will. A PPC card for the Mediator is due out any time now, and it doesn't make a lot of sense to compare CPU load between a machine with a PPC accelerator and one without.

There are up to three clocks on Phase 5's PowerPC boards, (normally) running at 50MHz and 66MHz. These clocks can be easily altered in manufacture, and there have been a number of variants. Normally the graphics card slot runs at 25MHz, fed from the system bus, but we understand that there are some cards that run at faster clock rates.



I'll be back!

Hello there. My name is James Kemsley, and I live all the way out in Australia. I was just wondering after reading the latest issue of your mag, since the Amiga is on the way back, could you please tell me if the CD32 will be relaunched? Even though my fave game will always be Metal Gear Solid on my Playstation, I would love to see the

"I would love to see the CD32 make a comeback"

CD32 (maybe CD64?) make a comeback. It had some great games, most notably Beneath a Steel Sky, Pinball Illusions, Jetstrike and the Alien Breed series, and many, many others.

James Kemsley, Australia



Above:
Comeback kid?

The CD32 is a little long in the tooth to revive, but there hopefully there will be an Amiga powered games consoles in the future. Using classic emulation it should hopefully be able to run Pinball Illusions, Beneath a Steel Sky and all your other old favourites, too!



Start making sense!

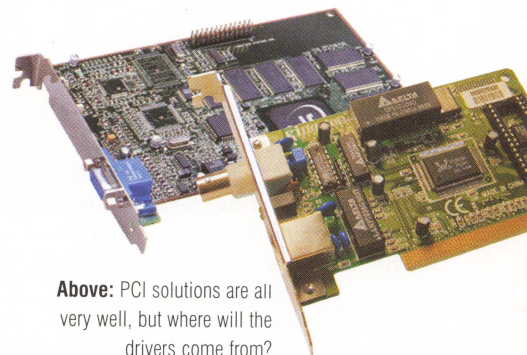
1. Can you please re-print the St. Louis show ad from AA19? Could you also do a comparison between what went on in 1985 and what happened at St. Louis? I just want to know if I missed something.

2. How will OS4 be put together? Will shareware media viewers be bundled together with it like they were with OS3.9? Surely 4.0 should not rely on shareware to cover up the gaps. How about Amiga buying the right to develop a REAL Audio and Video player?

3. Drivers: Who will write these new drivers and what will they cover? I ask this because I was going to buy a Mediator and have since kept an eye on the driver situation. A long wait for a Warp3D driver and only promises for other cards such as SoundBlaster audio cards and so on will not be enough for the new officially licensed AmigaOne. Can you try to clarify how many companies are developing these drivers and a timetable for their release?

Please try to give us a good report because I personally need to be put back "on message" about where Amiga are now going and what actually is defined as a "BIG" announcement in the Amiga world.

Darren Griffiths



Above: PCI solutions are all very well, but where will the drivers come from?

1. Obviously it was a bit of a mistake comparing an announcement to a launch, but to be fair to Amiga they did present the first new Amiga hardware in almost a decade and announce a deal with a huge multinational electronics giant, so you can forgive them for being enthusiastic.

2. OS4.0 will be largely the same as OS3.9, although there will be a number of enhancements developed in-house and it will run on PPC. With OS4.2 the AmigaDE will run under AmigaOS, bringing you all that modern multimedia capability we're missing.

3. Amiga are providing drivers, although not for every card around - they'll specify particular cards or chipsets. The drivers are being developed by Amiga and their contractors - for example Amiga are working closely with Matrox for their graphics drivers, with coding being outsourced to Hyperion and the Picasso96 teams. We don't have the exact release dates yet, but the necessary drivers are due to be released with OS4.0 by the end of the summer.



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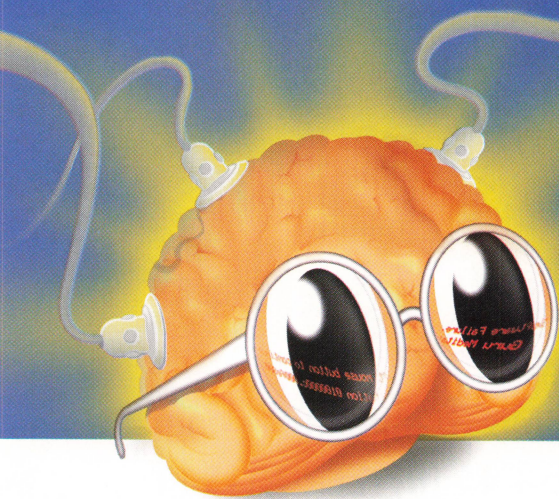
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ASK THE GURU

The holder of all knowledge, or just a cartoon brain that's escaped its jar and stolen Dennis Taylor's glasses?



Scan 'n' crash, baby!

Dear Guru,

I am using an A1200 with an Apollo '040/40 and 64MB RAM, running Workbench 3.9, Belinea monitor with flicker fixer and scan doubler.

After using ScanQuix 5, the Graphics Publisher in TurboPrint 7.1 continually crashes, once any attempt is made to print a recent scan. (i.e. the screen freezes, and the system has to be re-booted). The only way I can print a newly scanned image is to soft boot the system after each scan. No great hardship, I agree, just a pain. Other programs, such as Wordworth 7, will print graphics straight off, however.

Also, after scanning, the Workbench clock loses all track of the correct time. I suspect all these problems are mainly due to the scanner causing such a drain on the set up, but any thoughts on the matter from your good self would be most welcome.

Mike Crossley,
mcrossley52@lineone.net

It seems unlikely the scanner is draining the system: it should be powered externally. It sounds like something is being left in memory after ScanQuix has finished. Try issuing an 'Avail Flush' command in the shell after a scan and see if that cures the problem. Failing that, an e-mail to the authors to make them aware of any potential problems may be the best course of action.

New OS, old problems?

Dear Guru,

I have big problems with my Amiga 1200 which has been working fine with OS3.5 and BoingBag1. I have installed BoingBag2 from AACD19, and I am now getting software failure problems. Sometimes when I boot up, the screen goes black and just freezes up, but after a reset it is back to normal, and on the odd occasions after running Workbench programs the system locks up.

I have tried a "quick format" on my Workbench partition and reinstalled OS3.5 but it hasn't made any difference. I have stripped out all my tower and rebuilt it, and checked all the cables. I also tried formatting the Workbench partition and installing OS3.0 which worked without any such problems.

Could you throw any light on my situation? My setup is Rev1.d.4 A1200 with Apollo 1230/40 and 8MB EDO SIMMs in a tower.

John Powell,
john.p26@ukonline.co.uk

It seems strange that running a fresh install of Workbench 3.0 cures the problems, so that really eliminates the possibility of there being a hardware problem. The only one thing that does look suspect in your hardware list is those EDO memory sticks in the Apollo. Generally the Apollo range of cards won't work reliably with EDO

RAM, and it is recommended that FPM (Fast Page Mode) RAM be used. I'm not suggesting this is definitely the fault here, but it is a good place to start.

"...the Apollo range of cards won't work reliably with EDO RAM"

As far as software goes, it is possible that the later Setpatch command in BoingBag2 is conflicting with your system (although it shouldn't), plus a newer ROM update file is installed for this later update. Perhaps going back to BoingBag1 would be a good place to start. If your system is stable then the problem definitely lies in the latest release. My advice would be to change the line in your startup-sequence that contains the Setpatch command to read: "Setpatch SKIPROMUPDATES Quiet" as this will not patch the ROM in any way. From there it is trial and error to track the fault down.

Show some support for larging it!

Hi!

I wonder if you could help me out of a tricky situation concerning a hard drive. In my Amiga 1200 I'm using two hard drives. One sized 2.5GB (just one partition, DH0: which I boot from) and another one sized 15.3GB (three partitions, DH1:, DH2: and DH3: all about the same size).

I was running OS3.5 with AmigaOS ROM Patch when the problem occurred. I had a crash while saving a file to DH1: and when I booted up again the OS couldn't validate the drive since some block was out of range. The amount of free space was apparently zero though it should be about 3GB, but thank

goodness my files were still there! I also discovered after searching Aminet and asking a lot of people that there doesn't seem to be any disk utility to fix drives of this size. This is just horrible. It makes it really risky to use the OS3.5 FFS if you can't fix the disks when errors show up.

I decided to move my files to DH3: (which was almost empty) and format DH1:. It seemed like the only solution, and worked fine. The partition was as good as new. Except then DH2: had become uninitialized. It seemed very strange since DH2: was not involved in this at all. I had not done anything to it. Is there any way at all to fix this? I'd really like all my files back. I could reformat DH2: too in the worst case, but which partition will then become corrupted?

I've tried mailing Amiga support using their online form. I'm a registered 3.5 and 3.9 user so I should have the right to get support. But they never answer me.

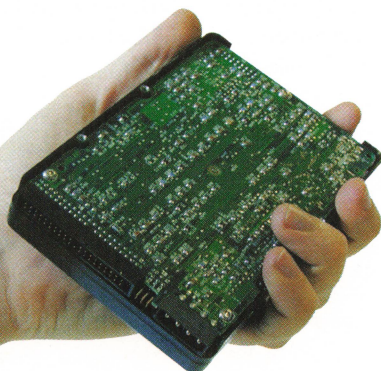
Eric Nordby,
Oslo, Norway

Oh dear, you have suffered a rather cruel blow from an aged filesystem that obviously has not been fully updated.

A drive size of 4GB is the maximum that the pre-v44 FFS filesystem could handle, so trying to access drives bigger than this results in what you are experiencing. This is why the filesystem was updated to 64bit but if the wrong 'Format' command is used, or it has not been updated properly, you will experience 'wrap-around', or the partition boundaries being skipped corrupting the next partition.

The only real way to be sure about using these large drives is to move to a third party filesystem, of which PFS3 is the most highly recommended. Failing that you can have as many drives as you like so long as they are all under 4.3GB and no single partition is bigger than 2GB.

Getting your data back may be very hit and miss. If the Format command has corrupted the RDB (Rigid Disk Block - the part of the drive which stores information on its partitions), or skipped past it, then your data could very well be lost forever.



"It seems like overkill to launch programs from a launcher, launched from a launcher!"

Launchers away!

Dearest Guru,

I use a program called Workbench Management System (by TTR Developments) to launch programs on my Amiga.



I have seen a similar program included with Amiga Forever on the PC which launches programs. My problem is it goes bonkers in more than 16 colours. Was there ever an update which could cope with more colours or is there another similar launcher?

I use ToolsDaemon to start WMS which, in turn, launches my other programs.

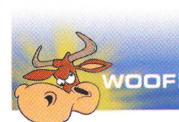
Bill Power,
bi.power@bigbluesky.uk.net

There are many program launchers on Aminet so you have a choice of plenty, but the best has to be the program you already use, ToolsDaemon. It seems like overkill to launch programs from a launcher launched from a launcher! Have a look at the launchers on this month's AACD, anyway.

Quite possibly time to upgrade...

Dear Guru,

I'd like to upgrade to an A1200, but I'm not sure which way to go.



Should I go for the Magic Pack, with the standard desktop Amiga, or a tower, which costs much more (I don't have a great deal of money), but has better expansion.

My current configuration is: A600, 0MB Fast RAM, 1MB Chip RAM, external floppy drive, WB 2.05 (+CrossDos), and a TV!

As you can see, it is quite depressing. I don't even have a monitor for it, which is really getting me down. I tried an '030 upgrade, but I was told that there was a timing conflict on my machine. Please Help!

Brian Melhuish,
Elp.Blackmoon@tesco.net

Yikes! You **are** in need of help. As with any computer purchase you should try and get the most you can afford at the time. Rather than buy a new machine, second hand is your best bet: for the same money you can get a much better machine. Stroll over to



Hopeless with hardware?



Stumped by software?



New to networking?



Wondering about Workbench?



Cunningly creative?



Dotty about doing it yourself?



...or just plain bonkers?

FEELING BLUE? ASK THE GURU!

If you have any technical problems, tips you'd like to pass on, or requests for in-depth coverage of a particular problem, please send them to:

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Cascading Style Sheets

```
<H1 STYLE="AA:
Standfirst">
```

Control the layout of your web pages without endless FONT and TABLE tags.



Above: WebMonkey.com has a good tutorial on CSS.

HTML was designed as a content markup language, not a layout language. It was intended to indicate the structure of a document, not specify its design. When companies began using the web to promote themselves, HTML authors wanted more control over the display and layout of documents.

Tables gave more control over the placement of individual elements, and then the tag allowed the author to tell the browser how to display text. These worked, after a fashion, but it was tedious marking up every piece of text with tags, and even more tedious if you wanted to change the font later. Embedding the formatting tags in the HTML also makes documents harder to maintain because the content and presentation information are mixed together.

Cascading Style Sheets (CSS) provide a way for the author of a site to easily and effectively influence how his pages are displayed, while keeping this style information separate from the content of the pages. An example will help illustrate this:

"HTML authors wanted more control over the display and layout..."

```
<STYLE type="text/css">
<!--
P {
fontfamily:arial,helvetica,
sans-serif;
font-size: 15pt;
color:blue
}
-->
</STYLE>
```

The first line opens the style tag and states that this is a CSS style (there are also JavaScript styles). The style information is enclosed in an HTML comment to stop non-CSS browsers displaying it. The style consists of the name of an HTML tag followed by a series of "rules" to be applied whenever that tag is encountered in the current document. In this case we are setting the font, size and colour. As with the tag, we can give a list of fonts, the browser will use the first one available to it. This should be placed in the <HEAD> section of the page. Any text in a <P>...</P> tag will be displayed in blue 15 point Arial/Helvetica.

Each style rule consists of a selector and a declaration, enclosed in braces. The selector is the HTML tag the style will be applied to, the declaration is the style itself, expressed as "property:value". A rule may contain any number of declarations, separated by semicolons. The whole rule can be on one line but it improves readability if you put each declaration pair on its own line.

Controlling text

One of the main uses of CSS is to change the appearance of text, and it has far more options than HTML's . The size of a font can be specified in many ways. The previous example uses an absolute size, in points. A point is about 1/72nd of an inch when printed but is usually represented as a pixel on screen. It is generally a bad idea to use absolute sizes as you don't know the window size or resolution of the browser. A visitor with impaired eyesight, who uses a 24 point font in his browser, isn't likely to stay a visitor for long if you force him to look at a 15 point font.

Relative sizes can be used with the keywords; xx-small, x-small, small, medium, large, x-large, xx-large. These correspond to the seven sizes defined in your browser. You can also give a percentage value, "font-size:200%" doubles the size of the text. Some browsers are buggy with percentage sizes, the "em" is a better unit. An em is the point size of the current text, "font-size:1.5em" increases the text size by 50 percent. This gives far greater control than the simple seven steps available in .

It's not only the size and style of text we can change. CSS has options to alter the layout of text and objects. The line-height property affects the spacing between lines.

```
B { line-height: 15pt }
```

This sets the line spacing of anything in bold to an absolute value. This is only useful if you have previously set the font-height to a standard value. Otherwise the results could be unpredictable, increasing the spacing on 12pt text and causing 18pt text to overlap. A safer alternative is:

```
B { font size: 12pt; line
height: 15pt }
```

This still has the usual disadvantages of absolute values, so it would be preferable to use a relative value here, like:

```
B { line-height: 1.5 }
```


You can use a line-height smaller than font-size. You may want to do this for "small print" notices at the bottom of a page with:

```
H6 { font-size: 10pt; line-height: 9pt }
```

You may be wondering what happens to the styles when you nest tags. If a particular property is not defined for a tag, it inherits any setting from its "parent". If you set the colour for <P> to green and include a tag, the contents of the will also be green, unless you have defined another colour for . This may sound obvious and not particularly noteworthy, until you realise that styles can be applied to most tags, including <BODY>. You can set up styles for the whole page in one style declaration. Combine this with external stylesheets and you can easily set, and change, the appearance of an entire site.

"...specify properties for blocks of text without the clutter of tables."

Boxing it off

CSS considers each "block level" element to be a box, with a border (usually not shown) and margins. Block level elements include <P>, <H1-6> and lists. This concept of each element occupying a box is often used when laying out a page with tables, setting spacing and padding to give margins, which usually results in the content of the page being buried in a morass of nested table tags. CSS allows you to specify properties for blocks of text without the clutter of tables.

```
P { margin: 10px }
```

This puts a ten pixel margin around each <P>...</P> block. you can also adjust individual margins with margin-top, margin-bottom, margin-left and margin-right:

```
P {
margin-left: 5em;
margin-right: 10em;
align: center;
}
```

...to leave a margin down each side of the text and centre it within that space. To avoid images touching text, without putting hspace and vspace attributes in every tag, you could use the following piece of code:

```
IMG {
```

```
margin-left: 5px;
margin-right: 5px;
margin-top: 3px;
margin-bottom: 3px;
}
```

...where "px" refers to pixels. If you want all four margins to be the same, use:

```
IMG { margin: 5px }
```

Individual styles

So far we have looked at styles applied on a global basis across a document, but what if you want to apply a different style to a particular block of text? Style rules can be given in the HTML tag itself.

```
<H3 STYLE="color: pink">Here
is some text</H3>
```

will render this text in pink without affecting any other instances of <H3>. That's fine if you only want to change the style once. If you want to change it several times, without affecting the default, CSS has a powerful feature called classes.

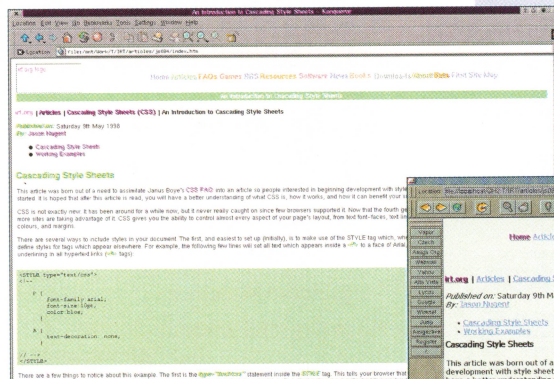
```
H3 { font: 18pt helvetica,
arial,sans-serif }
H3.red { color: red }
```

Here, the first line sets up the default H3 style. The second line creates a class of H3.

```
<H3>black text</H3>
<H3 CLASS="red">red!</H3>
```

You don't need to create H1.red, H2.red... separately, you can make a general class to apply the colour to any tag:

```
.red { color: red }
```



Above: This page uses stylesheets to colour text and backgrounds.

Right: The same page displayed in a non-CSS browser lacks the colouring, but is still readable.

Testing, testing, testing

Not all browsers support CSS - none of the Amiga browsers do - so you will still need to include non-CSS tags to style your site on those browsers. How much you try to make non-CSS browsers mimic the look of your stylesheets depends on how many visitors you get with each browser, but you should make sure that your site works on all browsers.

As with JavaScript and HTML, different browsers have their own interpretations and bugs. At the very least, you should test your site in Internet Explorer, Netscape, AWeb, IBrowse and Voyager. If you don't have a PC to run the first two, consider using a Mac emulator on your Amiga. Learn more about CSS at <http://hotwired.lycos.com/webmonkey/authoring/stylesheets/tutorials/tutorial1.html> and check your CSS code at <http://jigsaw.w3.org/css-validator>

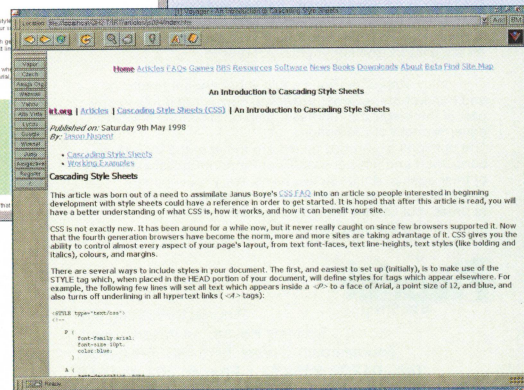
Neil Bothwick

Styles for a whole site

We have been looking here at styles defined in the <HEAD> section of each page, but there is another way. Put this in the HEAD of your page:

```
<LINK REL="stylesheet" HREF="
styles/default.css"
TYPE="text/css">
```

...and save your styles in styles/default.css. This file contains just the definitions, you don't include the <STYLE></STYLE> tags or the HTML comments. Moving your style information to a separate file dramatically increases the usefulness of CSS. By keeping all your style information in one document, changing the appearance of your site is a trivial task. Even if you have a thousand pages, you only have to change one file to alter the default font. Styles embedded in a document take precedence, so you can set up a default look for a site and still vary it for individual pages.





THE TEAM

Publisher: **Mark Hinton**
 Editor: **Andrew Korn**
 Desk Editor: **David Stroud**
 Production Editor: **Russell Trent**
 Art Editor: **Steve Crabb**
 New Media Editor: **Neil Bothwick**
 Technical Consultant: **Simon Archer**
 Contributors: **Fleecy Moss, Francis Charig, Larry Bolch, Don Cox, Richard Drummond, Philip Corner, John Chandler, Gary Storm.**

THE CONTACTS

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 General enquiries: **help** Subs: **subscriptions**
 Sales: **sales** Advertising: **advertising**
 News: **news** Ask the Guru: **guru**
 Feedback: **interactive** Editorial Queries: **editor**

THE MAILING LIST

Amiga Active has a couple of electronic mailing lists!
 Low-traffic list carrying Amiga Active announcements:
www.egroups.com/subscribe/amigactive-announce
 General discussion list for our readers:
www.egroups.com/subscribe/amigactive

THE SMALL PRINT

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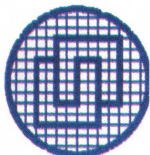
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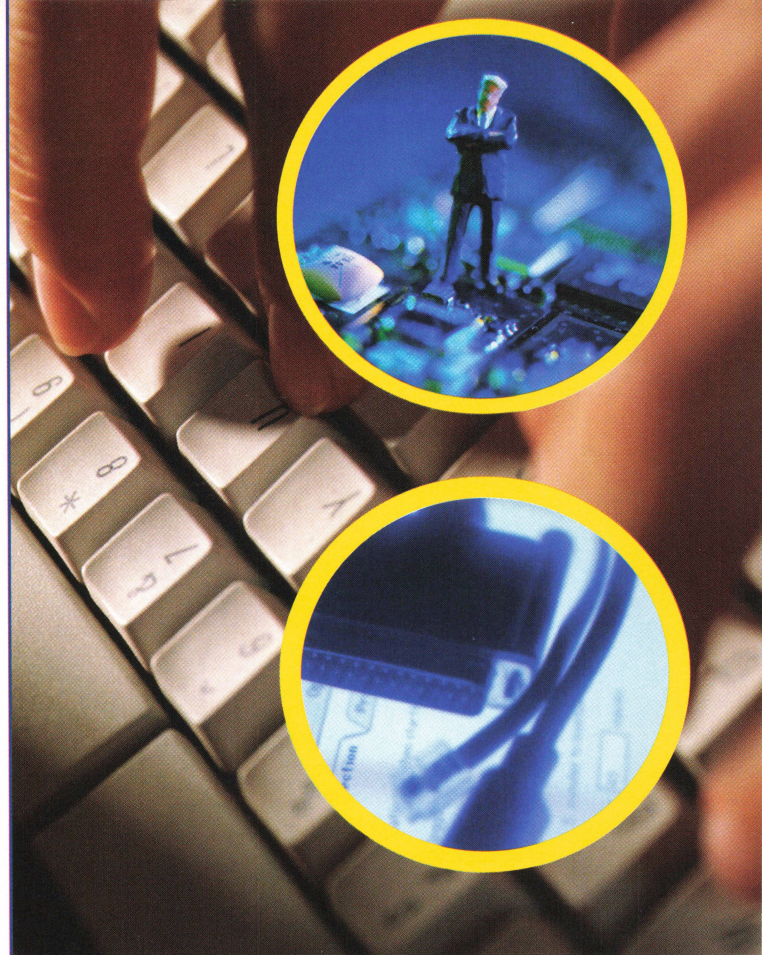
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Return of the Ninja?



Just to clarify a point: We were hoping for suggestions of real people, not computer game characters...

When we received a letter from a perhaps slightly over-imaginative reader (you know who you are, Kevin!) suggesting we interview computer game character Zool, we were taken rather by surprise. Still, as we are always ready to meet an interesting challenge, and after many fruitless calls to various agents and industry contacts, we finally tracked Zool down to a pub in Islington, where he works behind the bar on weekends.

Amiga Active: The obvious thing to ask is where have you been these last few years?

Zool: Oh, since quitting the games market I've been all over. I did reasonably well out of the games and when things started turning bad I found myself wanting to be as far away from it all as possible. With all that cash in my pocket I thought 'why not go travelling'.

I spent a lot of time wandering around India and Nepal, just hanging out really. I needed the change of pace and the Indian subcontinent is a much more peaceful place to be than the Nth Dimension. I eventually ended up in Holland, where I spent 18 months in a commune. I returned to the UK early last year, and here I am.

AA: When you disappeared there was talk about you having problems coping with the pressures of fame. Is there any truth in that?

Zool: At the time I would have said no, but looking back on it... yeah, certainly. There

were a lot of expectations on me. We wanted to bring console-style gaming to home computers, and a lot depended on me. It was great at the time to be promoted so well, to be trusted enough to be put head-to-head with Sonic the Hedgehog, but the down side was that the competition was real tough.

It seemed like a lot was riding on me, and that was a big burden to take on. I went a bit crazy for a while. I developed a serious Chupa-chups problem... I was taking ten, twenty a day and at first the sugar rushes really helped me through the pressure, but after a while I just started wanting more and more Chupa-chups. It got way out of hand.

AA: How do you respond to accusations that you were a blatant attempt to cash in on the popularity of Sonic the Hedgehog?

Zool: I admit it totally. I was manufactured; The Monkees to the Sonic's Beatles. The guys at Gremlin, my publishers at the time, knew just what they wanted out of the games market. But that's not an entirely bad thing. Even The Monkees had the occasional good track. Right from the start we never wanted to be something totally new, just something new in the world of home computing.

AA: Any plans for a comeback?

Zool: When I first arrived back in the UK I did look into the possibility of a comeback, but when I contacted a few old friends they told me not to bother. It's like the move from silent movies to talkies. Actors who couldn't

speak well suddenly stopped getting work. For computer game actors it's the same - if you don't have polygons, you're past it.

Now I'm looking to get back into the industry on the creative side, as a game designer. I have this great idea for a game about Foot and Mouth, but so far nobody has taken me on.

AA: How do you feel about the Amiga? Do you keep track of developments in the Amiga market these days?

Zool: I did the rounds, visited virtually every platform you can think of, but the Amiga was where I started - my home if you like. I've heard about the latest owners and good luck to them, but to be honest I only keep half an eye on the market.

AA: Finally, the question just has to be asked. Are you really some kind of alien Ninja from the Nth Dimension, or are you just an odd-looking ant?

Zool: Aw, for crying out loud guys. I asked you not to bring up the ant thing. I'm terminating this interview now. Goodbye.

Seven days after this interview took place, Zool lost his job at the pub and is now sienine on. He still hasn't found a publisher for his Foot & Mouth game.



Who's Next?

If you'd like to know what happened to someone (a real person, we mean!) from the Amiga's past, write in and let us know. We'll do our best to track them down and fill you in on the details in a future issue. E-mail backpage@amigactive.com or write to the usual address, marking your envelopes 'BackPage'.

"if you don't have polygons, you're past it."





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Eyeline

Amiga news from Eyetech

June 2001

Editorial

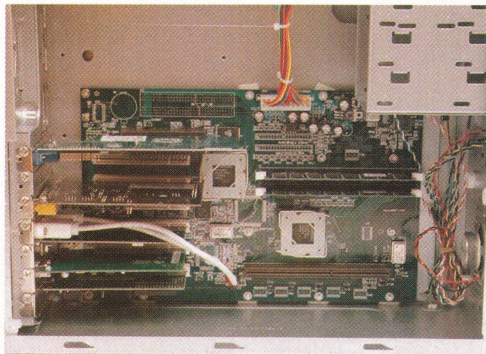
First London area Amiga show of 2001 on 26 May

The Eyetech-sponsored Kickstart Amiga show takes place in Banstead, Surrey at the end of May. As with the HAUG show earlier this year we and other Amiga dealers will be bringing as much Amiga stock as is practicable and selling it at some very special prices. In fact as this issue of AmigActive will be with subscribers a few days before the show we've taken the opportunity to use the facing page of this advert to highlight many of the items - and those special prices - that we intend to bring to the show, so you can be prearmed with the requisite amount of folding stuff! (credit/debit card facilities will be very limited - so please bring cash or cheques with bankers card). Of course there is only a limited amount of stock that we can bring with us - so all items are offered subject to availability. When its gone, its gone - as they say in B&Q.

... but I don't live nearby/I'm coming by train/I'm on holiday etc etc...

If you fit in to this category then we have made a special provision for you to be able to purchase these Amiga accessories at the special show prices (subject to availability) - without even being there! Just send in a copy (or an original) of the page opposite to us by post clearly marked with the items you wish to purchase together with your payment/payment details to reach us no later than Monday 4th June and we will honour the show prices given opposite. Please note that normal delivery charges are applicable to goods ordered in this way.

Finally many thanks from me on behalf of Eyetech - and I'm sure all the other dealers attending the show - to members of the Kickstart Users Group for the time and effort you have put in to organising the



The AmigaOne 1200 fitted into an ATX Tower

event.

Oh yes - I nearly forgot - we'll be bringing a pre production version of the AmigaOne-1200 with us for visitors to look at!

AmigaOne 1200 update

As reported in the last issue of Eyeline Amiga Inc have committed to converting the Classic Amiga OS to run on Zico-compliant PPC hardware, including bringing modern OS features like memory protection and a genuinely-fast file system. The first version, OS4.0, will have many of these features but will require an A1200 connected to the AmigaOne to function properly with all application software.

As this approach is inevitably more complex than the original plan (of having the current version of OS3.9 'fixed' to run on the AmigaOne-1200 pending the availability of a native port of AmigaDE), much of the testing that we had originally envisioned putting out to beta testers will now be carried out in-house by us

and Amiga Inc. The result is that beta testers will now only be asked to carry out application program compatibility testing. This also means that the beta tester AmigaOne boards will now be shipped towards the end of the development cycle, in July.

The first production boards will be ready to ship to dealers by the end of July, but the boards themselves will not actually be shipped until OS4.0 is ready, which may be a week or two later.

Any further developments will be posted to www.eyetech.co.uk/amigaone/ and to the amigaone mailing list at www.yahogroups.com/group/amigaone

Programmers for Amiga-DE wanted!

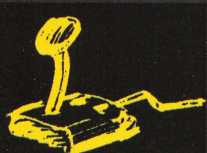
Now the Amiga DE is finally starting to have some substance and the Amiga SDK v1.1 is about to be released we are looking for programmers and other content developers to work with both our Eye-Play and Industrial Systems divisions on a range of exiting new applications based on the Amiga DE. Many of the applications are designed for portable devices with a low level of hardware resources so experience of working with low level languages would be an asset. We can be quite flexible in terms of work arrangements (full/part time, local/remote etc) and will provide off-site development equipment if appropriate.

If this sort of work appeals to you please send a written CV and examples of your recent work by post to eyetech, or by email to jobs@eyetech.co.uk.

Next issue

We are changing the format of our AmigActive advertising quite radically from next issue. Watch this space!

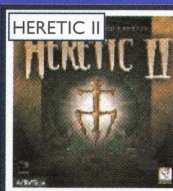
See you next issue. Alan.



For further details about our complete range of Amiga games - starting at just £4.95 - please see our website:

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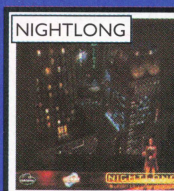
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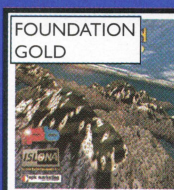
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'An absolutely cracking, original Amiga game' - AF
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CDROM



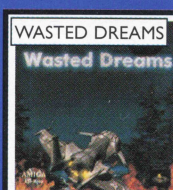
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93% - AF
Gold Award, 9/10 -
AmigActive
AGA, 68030, 8MB,
HD, CDROM



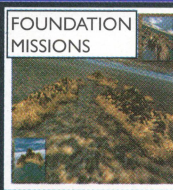
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£24.95

'The ultimate Amiga strategy game',
3.5/4 - AmigActive
68030, 8MB, HD,
CDROM



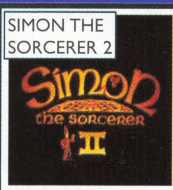
WASTED DREAMS
£19.95

'A great game' - AF
8/10 - AmigActive
68030, 6MB, HD,
CDROM



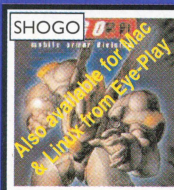
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40 new challenging missions for Foundation!
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'You'll like it. A lot.'
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AmigActive preview
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EARTH 2140
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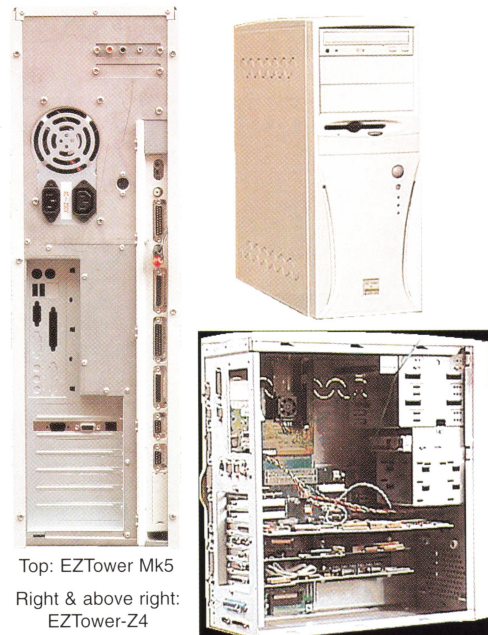
Forthcoming Review
Gfx Card, 32MB,
68040, HD,
CDROM, OS3.1+

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The EZTower Mk5 is designed to take an existing A1200, accelerator etc and an AT/ATX form factor PC motherboard (or an AmigaOne 1200 in stand alone mode) networked together within the same case.



Top: EZTower Mk5

Right & above right: EZTower-Z4

EZTower Mk5 with 250W PSU, 6x 5.25" bays & 3x 3.5" bays, floppy drive cable & faceplate, LED adapter and full instructions. (62x42x19cm) **£65(90)**

EZTower-Z4 with 250W PSU, 3x 5.25" bays & 4x 3.5" bays floppy drive cable & faceplate, LED adapter and full instructions. (48x44x18cm) **£75(100)**

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- Black infra-red keyboard** with CIA-fitting EZKey-SE/P keyboard adapter **£30(40)**
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- Predator-SE/GRex** 5xPCI expn board **£140(145)**
- VooDoo-3000** 16MB gfx card for above **£70(85)**

A1200 MAGIC PACKS

- Floppy disk Magic Pack** (new) **£75(180)**
- 170MB hard disk Magic Pack** inc Scala (German PSU & k/b but with new UK k/b for self fitting) **£100(250)**
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- CV64-3D** with fitted AMON autoswitcher **£150(210)**
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- CDPlus 48x** external A1200 CDROM, cables, buffered interface, PSU & instructions **£70(90)**
- 48 speed ATAPI** CDROM mechanism **£35(40)**
- Panasonic ATAPI** DVDROM mechanism **£50(80)**
- EZCD** buffered interface s/w & cables **£15(25)**
- EZCD** buffered interface alone **£10(15)**

CDREWITERS & MEDIA

- CDReWriter** bare ATAPI burnproof 12x10x32 (needs buffered i/f & makeCD) **£120(170)**
- CDReWriter** bare ATAPI standard 4x4x32 (needs buffered i/f & makeCD) **£95(140)**
- 10x blank WORM** CDR discs **£5(10)**
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- LS120** 120MB/1.44MB ATAPI floppy drive **£50(80)**
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- IOBlix 1200S** 1.5Mbd clockport serial card **£25(40)**
- Hypercom3i+ Z2** 1x par + 2 x 460Kbd ser **£40(50)**
- IDEPPlus Z2** 6xIDE/ATAPI + 2 x HD FDD **£60(70)**

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- A1200 3.1 ROMs** (needed for OS3.1+) **£20(30)**
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- Prelude1200** Clockport sound card **£100(130)**
- MIDIPlus** serial port MIDI i/f - any Amiga **£20(30)**
- MASPlayer** parallel port MP3 - any Amiga **£70(75)**
- MASPlayer + 200W speaker bundle** **£85(100)**

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Classic Amiga Software

OPERATING SYSTEM SOFTWARE

- OS3.9** on CDROM (3.1 ROMS needed) **£28(30)**
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- EMC PhaseX** Scala backgrounds and fonts **£15(10)**
- TVText Pro 2.0** Video titling software **£25(100)**

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COMMUNICATIONS & NETWORKING SOFTWARE

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- STfax 4.5** Amiga voicemail & fax software **£35(40)**
- Genesis TCP/IP** s/w for internet/networking **£20(25)**
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GAMES (carriage charges apply for all mail order purchases)

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Amiga DE Software

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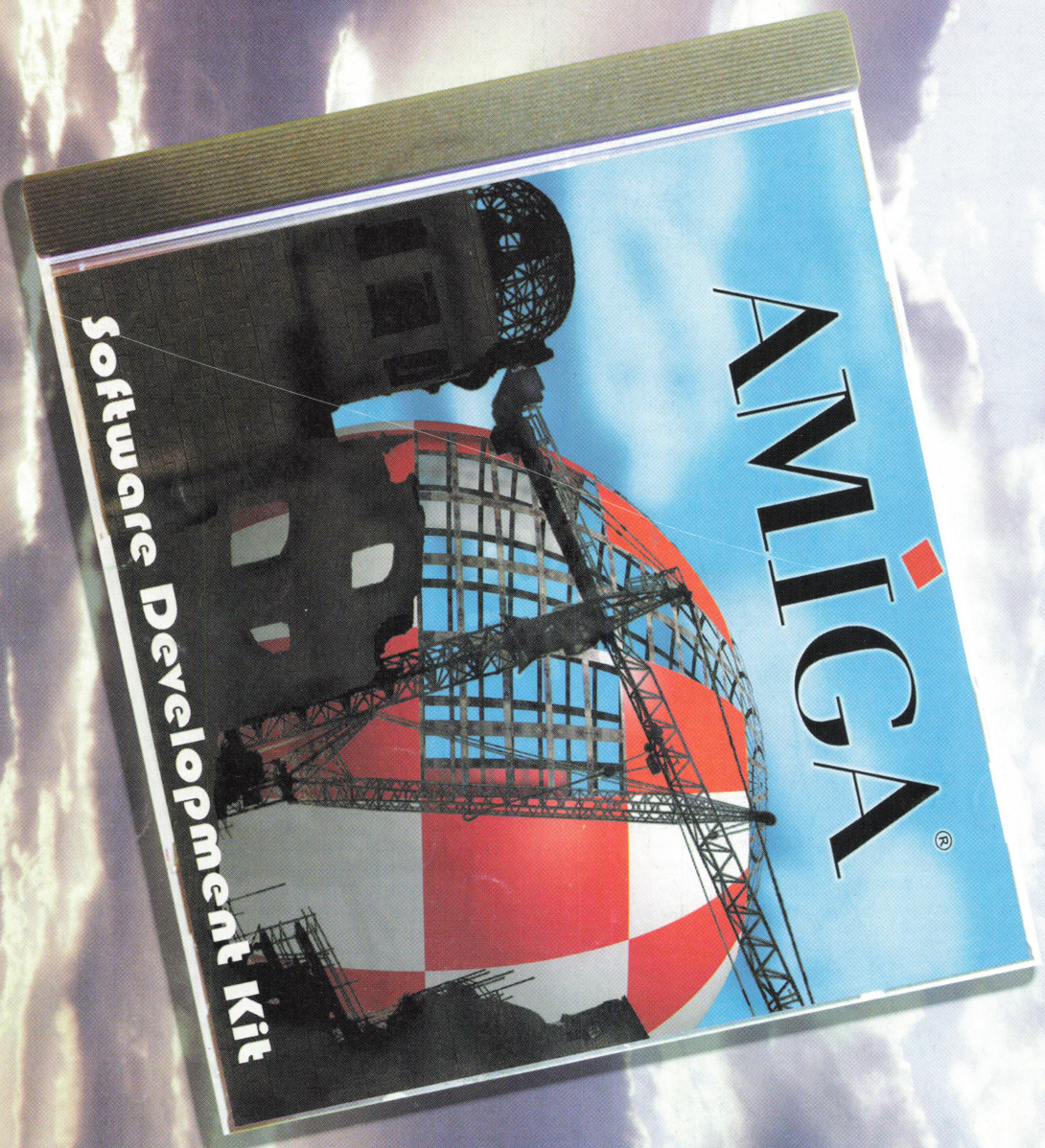
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